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BACTERIOLOGICAL NEWS

Society of American Bacteriologists

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P. C. Eisman, Summit, New Jersey — *New York City*
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H. E. Lind, Brookline, Massachusetts — *Northeast*
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H. E. Swim, Cleveland, Ohio — *Ohio*
C. F. Clancy, Philadelphia, Pennsylvania — *Eastern Pennsylvania*
G. A. Costa, Rio de Janeiro, Brazil — *Rio de Janeiro*
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Margaret Green, University, Alabama — *Southeastern*
E. B. M. Cook, Austin, Texas — *Texas*
H. J. Welshimer, Richmond, Virginia — *Virginia*
M. J. Pelczar, Jr., College Park, Maryland — *Washington, D. C.*

Council Policy Committee:

H. R. Cox, *Chairman* — E. M. Foster, *Secretary*
C. A. Evans — J. H. Bailey — J. R. Porter — John E. Blair
C. F. Niven, Jr. (1961) — Orville Wyss (1962) — Werner Braun (1963)

Ex officio Members

J. R. Porter, Editor-in-Chief, JOURNAL OF BACTERIOLOGY; H. W. Scherp, Editor-in-Chief, BACTERIOLOGICAL REVIEWS; H. B. Woodruff, Editor-in-Chief, APPLIED MICROBIOLOGY; M. W. Chase, Chairman of the Program Committee; R. E. Kallio, Vice-Chairman of the Program Committee; L. R. Frederick, Chairman of the Division of Agricultural and Industrial Bacteriology; H. O. Halvorson, Chairman of the Division of Bacterial Physiology; L. L. Campbell, Chairman of the Division of General Bacteriology; W. F. Verwey, Chairman of the Division of Medical Bacteriology and Immunology; R. W. Schlesinger, Chairman of the Division of Virology.

SOCIETY AFFAIRS

AN INFORMED MEMBERSHIP

It does not take experience in the business world to know that one of the necessities of a successful business is to have a product that the buying public wants. Likewise, a successful society must have a product—we call it a program—that is needed or is in demand by its members and those it serves. The S.A.B. has a good program and its officers, council and committees are striving to make it better. The achievement of this goal requires the interest and participation not of just the Society's administrators, but of all Society members.

How, then, can the necessary interest be stimulated? The answer, we believe, lies in four magic words: *inform, interest, support, participate.*

To become *interested* the members must first become *informed* because no one will be interested in a program about which he is uninformed.

To solicit *support* and *participation* in the Society's program, the members must be interested.

Members must see the challenge in constructive ideas, and the possibility of beneficial results, before they will labor to convert the ideas into an active program.

The realization of the objectives of the Society's program requires the support and cooperation of *all* its members.

One of the main reasons for the publication of *Bacteriological News* is to keep the Society's membership informed of its activities. Elsewhere in this issue are reports on the 1960 Council and Business meetings of the Society, as well as reports of many committees. You are the Society and owe it to yourself to take the time to read these reports.

Now, as never before, to insure the success of its rapidly expanding program, the Society needs your interest and participation. **Will you become informed?**

1961 MEMBERSHIP CARDS

The Society's membership card, discontinued this year as an economy move, will be distributed again in 1961 but on a different basis and by a simple mechanism that will make its cost to the Society insignificant. A blank membership card will be printed on a postcard-size card and sent to each member along with the 1961 dues statement. Those members planning to use the card as proof of dues payment when registering at the Annual Meeting or for other purposes, must sign the face of the membership card, place name, address and a three cent stamp on the opposite side and enclose card with dues payment sent to the Society's Headquarters. The card will then be receipted and mailed back to the member.

The important point to remember is that the membership card must be signed by the member and receipted by the Headquarters to be valid for proof of membership at Annual Meeting registration. Returning the membership card for receipting is optional for members who plan to preregister for the Annual Meeting or who do not desire the card as receipt of dues payment. While it is true that this procedure will put membership cards into the possession of the few who do not pay their dues, these non-validated cards would be of no value to this small inactive group of ex-members. This plan was presented to the Council of the Society and was approved by the Membership Committee.

PUBLICATION OF NOTICES OF ACADEMIC VACANCIES

In an effort to facilitate the recruitment of qualified staff members and thereby to improve the quality of instruction of microbiologists, the Council Policy Committee of the Society of American Bacteriologists has approved the publication of notices of academic vacancies in the *Journal of Bacteriology*. Department chairmen and others responsible for making faculty appointments are invited to submit announcements **up to 50 words** including the following information:

Name of school, academic rank, field of microbiology, person that the applicant should write, a few words about the duties and opportunities involved. Salary data are optional, but in any case the salary offered must be at least $6,500 for a 9 or 10 month appointment and $7,500 for a 12 month appointment. The notice may be edited to fit a uniform style and will be limited to 50 words.

Notices are not intended, at this time, to include ordinary postdoctoral positions or strictly research posts. The person submitting the notice should state in his letter of transmittal that instruction constitutes a substantial part of the duties and that the position is comparable to other regular faculty positions in his department. If salary is not stated in the notice, he should state in his letter of transmittal that the salary to be offered meets the minimal level stipulated above.

Notices will be received beginning immediately. They should be sent to Dr. E. M. Foster, Secretary, Society of American Bacteriologists, Department

of Bacteriology, University of Wisconsin, Madison 6, Wisconsin.

Sample Announcement

DEPARTMENT OF_____, UNIVERSITY OF_____

Associate Professor preferred, Assistant Professor or Instructor if appointee has lesser qualifications. Salary at least $8,500 Associate Professor, $6,500 Instructor for 9 months. Competence in microbial genetics preferred. Teach beginning course in general microbiology and share course in microbial genetics or bacterial physiology. Good research opportunity. Contact J. N. Doe.

DIVISION OFFICERS FOR 1960–61

(Terms expire after 1961 Annual Meeting)

Agricultural and Industrial Division

Chairman—Lloyd R. Frederick, Dept. of Agronomy, Iowa State University, Ames, Iowa.
Vice-Chairman—Harlow H. Hall, Northern Regional Research Laboratory, Peoria, Ill.
Secretary—Raymond C. Bard, Smith, Kline and French Laboratories, Philadelphia, Pa.

Bacterial Physiology Division

Chairman—Harlyn O. Halvorson, Dept. of Bacteriology, University of Wisconsin, Madison, Wisconsin.
Vice-Chairman—Helen R. Whitely, Dept. of Microbiology, University of Washington, Seattle, Washington.
Secretary—H. D. Peck, Oakridge National Laboratory, Oak Ridge, North Carolina.

General Division

Chairman—L. Leon Campbell, School of Medicine, Western Reserve University, Cleveland, Ohio.
Vice-Chairman—A. G. Marr, Dept. of Bacteriology, University of California, Davis, Calif.
Secretary—J. L. Stokes, Dept. of Bacteriology and Public Health, Washington State University, Pullman, Washington.

Medical and Immunology Division

Chairman—W. F. Verwey, Dept. of Bacteriology, University of Texas Medical Branch, Galveston, Texas.
Vice-Chairman—Herbert R. Morgan, Dept. of Bacteriology, Strong Memorial Hospital, Rochester, N. Y.
Secretary—Norman F. Conant, Dept. of Bacteriology, Duke University, Durham, North Carolina.

Virology Division

Chairman—R. Walter Schlesinger, St. Louis University School of Medicine, St. Louis, Mo.
Vice-Chairman—Frank Lanni, Dept. of Bacteriology and Immunology, Emory University, Atlanta, Ga.

APPOINTMENTS FOR 1960–61

Committees Established by the Constitution

Council Policy Committee

H. R. Cox, *Chairman*
C. A. Evans
John E. Blair
E. M. Foster
J. H. Bailey
J. R. Porter
C. F. Niven, Jr.
Orville Wyss
Werner Braun

Membership

D. E. Shay, *Chairman*
D. R. Colingsworth
E. C. Berry
W. A. Corpe
C. J. Rickher
F. C. Kull
J. E. Dyson
Mildred Engelbrecht
Minnie Schreiber
W. A. Nolte
C. E. Georgi
B. C. McLaughlin
P. S. Nicholes
A. W. Anderson
J. C. Lewis
Helen Zaborowski
Mrs. S. B. Tove
E. R. Garrison
A. A. Werder

Archives

L. S. McClung, *Chairman*
S. Bayne-Jones
H. J. Conn
P. F. Clark
P. W. Wilson
T. H. Grainger, Jr.
R. A. Greene

Program

M. W. Chase, *Chairman*
R. E. Kallio, *Vice-chairman*
L. R. Frederick
Harlyn O. Halvorson
L. Leon Campbell
W. F. Verwey
R. W. Schlesinger

Publication Board

J. R. Porter, *Chairman*
H. B. Woodruff
H. W. Scherp
H. R. Cox
E. M. Foster
J. H. Bailey

Committees Appointed by the Council and the President

Advisory to the Chief of the Chemical Corps

G. M. Dack, *Chairman*
W. O. Nelson
I. J. Gordon
A. G. Norman
F. B. Bang
W. A. Hagan
F. S. Cheever
S. S. Elberg

Advisory (Technical) to A.T.C.C.

R. P. Tittsler, *Chairman*
C. W. Emmons
Mathilde Solowey
Harriette D. Vera
M. J. Pelczar, Jr.

Annual Meeting Places

R. D. Housewright, *Chairman*
M. W. Chase
Orville Wyss
H. E. Morton

Bacteriological Nomenclature (I.A.M.S.)

R. E. Buchanan — L. M. Black
C. B. van Niel — C. B. Philip
O. N. Allen

Education

L. S. McClung, *Chairman* — Harold J. Blumenthal
M. J. Foter — Benjamin Schwartz
Delaphine G. R. Wyckoff — James Burnside
William G. Walter — Quentin Myrvik
L. Leon Campbell — David L. Fagle

Eli Lilly Award (S.A.B. Representatives)

Nominating

H. A. Barker, *Chairman*
J. O. Lampen

Award

Harry Eagle, *Chairman*
H. M. Rose

Finance, 1961 Annual Meeting

M. W. Chase, *Chairman* — N. M. Szukala
R. E. Kallio — E. M. Foster
J. C. McCaffrey — J. H. Bailey

Finance, Society

H. R. Cox — E. M. Foster
C. A. Evans — J. H. Bailey
John E. Blair — J. R. Porter

Honorary Members

Harry Eagle, *Chairman* — P. R. Edwards
C. A. Evans

Polar and Marine Microbiology

R. D. Reid, *Chairman* — C. E. ZoBell
F. D. Sisler — R. H. McBee

Materials for Visual Instruction in Microbiology

H. E. Morton, *Chairman* — S. E. Sulkin
W. C. Schneider — P. G. Gerhardt
F. S. Markham

Microbiological Methods

M. J. Pelczar, *Chairman* — R. C. Bard
H. J. Conn — A. P. McKee
M. W. Jennison

Placement

M. J. Foter — R. F. Ervin
D. P. Glick — Mary E. Aiken

President's Fellowship Award

A. K. Saz, *Chairman* — Elliott Juni
R. E. Hungate

Sanitary Methods for the Examination of Water

P. W. Kabler, *Chairman* — Elizabeth D. Robinton
C. C. Croft

Taxonomy

K. B. Raper, *Chairman* — C. F. Niven, Jr.
R. E. Buchanan — R. L. Starkey

Sub-committee on Actinomycetes

David Gottlieb, *Chairman* — R. G. Benedict
S. G. Bradley — J. B. Routien
E. J. Backus

Sub-committee on Enterobacteriaceae

W. H. Ewing, *Chairman* — J. M. Desranleau
P. R. Edwards — A. S. Browne
W. W. Ferguson — Erwin Neter
T. M. Floyd

Sub-committee on Mycobacteria

Charles Shepard, *Chairman* — J. H. Hanks
David T. Smith — Egons Darzins
Ernest Runyon — Guy P. Youmans
Emanual Wolinsky — W. B. Schaeffer

Representatives to Other Organizations

A.T.C.C. Board of Trustees

C. Lamanna — Rudolph Hugh

American Association for the Advancement of Science

R. E. Hungate — Mary Louise Robbins

National Research Council

R. W. Stone (Agriculture) — C. Phillip Miller (Medicine)

Executive Committee, Section on Food Microbiology & Hygiene, I.A.M.S.

H. Orin Halvorson

Bergey Manual Trust

C. F. Niven, Jr.

NOMINATIONS FOR SOCIETY OFFICES

The Nominating Committee appointed by President Evans has submitted the following slate for the coming fall election. Members of the committee were H. Orin Halvorson, *Chairman*, R. E. Hungate, Werner Braun, K. B. Raper, and M. L. Speck. Elected officers will assume office on July 1, 1961.

For President

Dr. John E. Blair, Hospital for Joint Diseases, New York, New York.

For Vice-President

Dr. Robert L. Starkey, Department of Agricultural Microbiology, Rutgers University, New Brunswick, New Jersey.

Dr. Orville Wyss, Department of Bacteriology, University of Texas, Austin, Texas.

For Secretary

Dr. Phillip Gerhardt, Department of Bacteriology, University of Michigan Medical School, Ann Arbor, Michigan.

For Treasurer

Dr. Richard Donovick, Squibb Institute for Medical Research, New Brunswick, New Jersey.

For Councilor-at-Large

Dr. H. A. Barker, Biochemistry and Virus Laboratory, University of California, Berkeley, California.

Dr. E. M. Foster, Department of Bacteriology, University of Wisconsin, Madison, Wisconsin.

Dr. J. O. Lampen, Institute for Microbiology, Rutgers University, New Brunswick, New Jersey.

Dr. W. W. Umbreit, Department of Bacteriology, Rutgers University, New Brunswick, New Jersey.

Biographical sketches of the nominees will be distributed with the ballots.

MEYER AND BAYNE-JONES NOMINATED FOR HONORARY MEMBERSHIP

Two distinguished and faithful members of the Society were nominated for honorary membership when the Council met in Philadelphia during our 1960 Annual Meeting. Dr. Karl F. Meyer, former Professor at the University of California and Director of the G. W. Hooper Foundation for Medical Research, was President of the Society in 1935. Dr. Stanhope Bayne-Jones has held academic appointments at Johns Hopkins, Rochester, and Yale, as well as important posts in the Office of the Surgeon General of the U. S. Army. He was President of the Society in 1930.

The names of Dr. Meyer and Dr. Bayne-Jones will appear on the ballot later this year. Detailed biographical sketches will be distributed at that time.

BACTERIAL PHYSIOLOGY DIVISION NOMINATING COMMITTEE

for 1961 Elections

The Bacterial Physiology Division has announced the following Nominating Committee to submit nominations for the Officers of the Division for the year 1961–1962:

E. A. Delwich, *Chairman*
G. D. Novelli
John Spizizen

Members of the Division are invited to submit nominees to the committee by November 1, 1960.

MEETING REPORTS

PHILADELPHIA MEETING: THE LARGEST

Attendance at the Society's 1960 Annual Meeting in Philadelphia far exceeded that of any previous Annual Meeting: 3675, of which 83 per cent were paying registrants. The remainder consisted of local volunteers, exhibitors, press, and invited guests.

To our gracious hosts, the members of the Eastern Pennsylvania Chapter, the Society expresses its heartiest thanks. It is the greatest compliment to be able to say that the meeting functioned smoothly in spite of the great strain placed on the available facilities.

Fifty sessions were required for the presentation of 488 original communications. Another 15 sessions were devoted to Symposia and special panels, and there were 12 smaller group meetings on particular aspects of microbiology. The Chairmen of the four Divisions of the Society and the Program Chairman wish to extend their very real appreciation of the effort expended by the individuals who served so well as Conveners of the Sessions. It has not been possible to thank each person individually.

On Sunday, no less than 2423 registered, which exceeded the total registration at many of the Society's past meetings. A most appropriate lecture was given on Sunday evening by the guest ONR Lecturer, Dr. Milton R. J. Salton of the University of Manchester, entitled "The Anatomy of the Bacterial Surface."

The highlight of social activities came at the Annual Banquet on Tuesday evening. The 711 persons in attendance were privileged to hear the Presidential address of Dr. Charles A. Evans, preceded by a most pleasurable and novel demonstration of precision singing by the Temple University Concert Choir.

An innovation at the meeting was the attendance, by special invitation, of a limited number of high school students especially interested in biology, and college students interested in microbiology. A total of 104 students and 11 instructors from 11 colleges, and 83 students and 16 instructors from 19 high schools comprised the 214 special guests who visited the exhibits, partook of a buffet meal and listened to a program on the advantages of a career in bacteriology. The Com-

mittee on Education feels that the experience of the visit oriented many of the students to careers as bacteriologists and imparted a great stimulus to the teaching of bacteriology in high schools and colleges in the Philadelphia area.

Another innovation at the meeting which justifies becoming standard procedure was pre-meeting paid registration. A total of 1177 availed themselves of this opportunity and found their registration completed at the meeting in often less than a minute.

The St. Louis plan of having registration open on Saturday for officers, volunteers and "early birders," and having the Membership Committee booth adjacent to the registration area, greatly facilitated the ease of registration.

Registrants came from 49 states, Puerto Rico and 19 foreign countries. Members who are interested in statistics will find the following registration breakdown of interest:

Paid registrants

Members	1899
Non-members	568
Student members	201
Non-member students	227
Wives or husbands of members	156
Total paid registrants	3051

Non-paying registrants

Local volunteers	277
Exhibitors	327
Invited guests	15
Press	5
Total non-paying registrants	624
Total registration	3675

Registration by days

Saturday	315
Sunday	2423
Monday	463
Tuesday	258
Wednesday	191
Thursday	25
Total	3675

For non-Philadelphians the meeting is in the past. But for the Local Committee there remains a myriad of tasks of closing a meeting and preparing the official report of the Annual Meeting.

In the meantime, the next Local Committee is hard at work. Help make their efforts worthwhile by starting to make your plans to attend the 61st Annual Meeting in Chicago, April 23–27, 1961.

REPORT OF COUNCIL MEETINGS

May 1, 3, 4, 1960

The Council met from 2:10 to 5:45 p.m. on May 1, from 2:30 to 5:00 p.m. on May 3, and from 9:00 to 10:25 a.m. on May 4, 1960, with President C. A. Evans in the chair. Because several matters were considered at two different times, this report is arranged by item rather than by days.

1. Published reports of the 1959 Council meetings were approved by consent.

2. Reports of the Treasurer (April, 1960, *Bacteriological News*) and of the Secretary (letters to the Council and the April, 1960 *News*) were cited by the President. Two members of the Auditing Committee (F. D. Stimpert and W. J. Nungester) reported satisfaction that the Treasurer's report is reconciled with the Society's books. A third member of the committee, J. F. Gain, certified to the physical assets of the Society in a safe deposit box at the Mechanics and Farmers' Bank in Albany, New York. The report of the Auditing Committee was accepted by vote of the Council. (Note: in its report the Auditing Committee recommended that the Society arrange to have its books examined annually by a professional auditor.)

3. The actions of the Council Policy Committee since the 1959 Annual Meeting were approved by vote of the Council. These actions were reported in writing to the Council in advance of the 1960 meeting.

4. Eighteen reports of committees and representatives were accepted. These reports were presented for information only and did not contain recommendations for action by the Council.

5. In view of the dearth of subjects that need to be published as monographs, and in accordance with the recommendation of the committee itself, the Council agreed that the Committee on Monographs should be discharged.

6. The report of the Archives Committee was accepted, thus approving the Committee's proposal that the Society's archives be deposited in the Lilly Library at Indiana University until such time as the Council shall select another depository.

7. The report of the Committee on Education was accepted. In so doing the Council approved the committee's recommendation that the cash awards and plaques, first offered for the best microbiology exhibits at the 1960 National Science Fair-International, shall again be offered in 1961. The total value of the awards is not to exceed $275.

8. The report of the Society's representatives to the Board of Trustees of the American Type Culture Collection was accepted, and a resolution was adopted expressing the Council's active support of the drive for funds to build a new laboratory to house the Collection.

9. On recommendation of the Committee on Annual Meeting Places, New York City was selected as the site of the 1965 Annual Meeting.

10. Invitations for future meetings were received from the following branches: Illinois Branch to meet in Chicago in 1966; Northern California-Hawaii Branch to meet in San Francisco in 1966; South Florida Branch to meet in Miami Beach in 1966 or 1967; New Jersey Branch to meet in Atlantic City in 1967; Northeast Branch to meet in Boston in 1967 or 1968. All invitations were referred to the Committee on Annual Meeting Places with instructions to report its recommendations to the Council at the 1961 Annual Meeting.

11. On approval of the report of the Annual Meeting Finance Committee for 1960, President Evans appointed a special committee (Orville Wyss, Chairman, H. W. Scherp, and R. W. Sarber) to assess the value of the traditional mixer held at the beginning of our Annual Meetings and to recommend a policy for financing it. This action was taken on the recommendation of the Annual Meeting Finance Committee and in recognition of the steadily and rapidly increasing cost of the affair.

12. After a discussion of the problems of continuity and indoctrination of the Program Committee, the Council voted, on recommendation of the Committee, to favor the idea of two-year terms for division chairmen.

13. Approval was given to a proposal to establish a Soil Microbiology Section within the Agricultural and Industrial Division provided the division officers and the Chairman of the Program Committee approve.

14. Approval was given to a proposed change in bylaw 2 (c) (see report of Business Meeting) that would bar a member who is dropped from the Society for non-payment of dues from presenting a paper at the next succeeding Annual Meeting.

15. A plan was described for producing *Bacteriological Proceedings* by photooffset printing from author-prepared copy in the manner followed by *Federation Proceedings*. To facilitate this plan, the Council voted to amend bylaw 5 (f) (see report of Business Meeting) to permit the Program Committee to specify the form and number of copies of abstracts that must be submitted. The Council also approved a recommendation of the Program Committee defining the maximal permissible size of abstracts. (Note: it is visualized that the length of abstracts will be about the same as in the past, but the definition will be based on area rather than number of words.)

16. It was voted to include the Vice-Chairman of the Program Committee as a non-voting member of the Council.

17. Merely to formalize a current practice, the Council voted not to furnish *Bacteriological Proceedings* to student members, who pay $2.00 annual dues, or to individuals who register at the Annual Meeting at a reduced rate, e.g., nonmember students and wives or husbands of members.

18. After a report of significant interest in a separate division of virology, and in view of the large number of papers presented at meetings of the Division of Medical Bacteriology, Immunology and Virology, the Council voted to approve a change in bylaw 3 providing for a separate Division of Virology (see report of Business Meeting.)

19. In view of the rapidly growing backlog of unpublished papers in the *Journal of Bacteriology* (see report of the Editor in April, 1960, *Bacteriological News*) and in anticipation of a similar state of affairs with *Applied Microbiology*, a proposal was presented to increase the size of both of these journals. As part of the plan for financing the expansion, the Council approved a change in bylaw 2 which would increase the annual dues of regular members from $12 to $15 and of sustaining members from $75 to $100. It was understood that these increases would become effective only if approved by a majority of the members in a vote by mail. (Note: The proposed plan aims at long-range relief of pressure for space in the journals. In the meantime, to provide immediate help the Council voted to instruct the officers to attempt to secure a grant that will permit prompt publication of as much as possible of the current backlog of accepted papers.)

20. Editing the Society's journals, especially the *Journal of Bacteriology*, has come to require a tremendous amount of effort and time, far more than can normally be expected of a volunteer scientific editor. The *Program*, *Bacteriological Proceedings*, and *Bacteriological News* require considerable editorial work. Moreover, management of the publications requires specialized skills that are not possessed by most bacteriologists. Much of the work now done by the scientific editors could be accomplished by trained editorial assistants. Therefore, to reduce the work load of our scientific editors and to provide badly needed management and editorial services to all of our publications, the Council approved the establishment of a Society Editorial Office.

21. Approval was given to the following budget for 1960.

Receipts

Dues	$86,236.00
Publications	15,052.00
Annual Meeting	18,510.00
Interest and dividends	6,500.00
Other	3,675.00
Total	$129,973.00

Expenses

General Operations	
Officers	$3,800.00
Committees	3,132.00
Printing and mailing	1,500.00
Headquarters office	35,025.00
Publications	
Journal subscriptions	54,142.00
Bacteriological News	6,000.00
Others	850.00
Annual Meeting	14,439.00
Miscellaneous	1,800.00
Reserve for publications	4,000.00
Contingencies and surplus	5,285.00
Total	$129,973.00

22. Approval was given to a proposal of the Williams and Wilkins Co. that the deficit of any of the Society's journals, if a deficit exists, shall be met from the combined surplus of all the journals before the remainder is divided with Society at the end of the year.

23. The Council agreed to a modification of the editorial service agreements with the Williams and Wilkins Co. whereby charges for editorial services to the Society's journals will be computed on the basis of $4.75 per hour.

24. A proposal to change the name of the Society to the American Society for Microbiology was approved (see report of Business Meeting). A proposal to change the name of the *Journal of Bacteriology* was defeated by unanimous vote of the Council.

25. Proposals to nominate Dr. Stanhope Bayne-Jones and Dr. Karl F. Meyer for Honorary Membership were approved.

26. President Evans announced the appointment of Dr. H. R. Cox, Dr. J. Lederberg, and the Secretary who is in office in 1962 to represent the Society at the General Assembly of the International Association of Microbiological Societies during the 8th International Congress for Microbiology in Montreal in 1962.

27. The Council approved a motion to exempt the following committees from the Constitutional limitation of three years of continuous service: Advisory to the Chief of the Chemical Corps, Advisory to the American Type Culture Collection, Polar and Marine Microbiology, Materials for Visual Instruction in Microbiology, Microbiological Methods, and Sanitary Methods for the Examination of Water. Because of their specialized functions these committees do not lend themselves to frequent and regular rotation of the membership.

28. The Council approved a contribution of $100 to the National Society for Medical Research for 1960.

E. M. Foster,
Secretary

REPORT OF BUSINESS MEETING

May 4, 1960

President C. A. Evans convened the Society's Annual Business Meeting at 4:00 p.m. in the Ballroom of the Bellevue-Stratford Hotel. He promptly called for the report of the Committee on Resolutions for the 1960 Meeting.

1. Report of the Committee on Resolutions (read by Dr. Philipp Gerhardt).

Be It Resolved:

a. That the Society of American Bacteriologists, in its Annual Meeting of 1960, pay tribute to its deceased members and record its indebtedness to them in the minutes of this meeting.

b. That we express our appreciation to all officers, editors and committee members, whose willingness and competence are so essential to the Society. We especially express our thanks to Dr. Merrill W. Chase for his contributions as Chairman of the Program Committee. He and his associates have accomplished a difficult and time-consuming job.

c. That we recognize appreciatively the long and devoted service of Dr. Milton J. Foter as Director of the Employment Bureau of the Society. We hope that this Bureau has continuing success under the leadership of the Executive Secretary.

d. That we express our full thanks to the Eastern Pennsylvania Chapter, to Chairman Harry E. Morton and members of the Local Committee on Arrangements, and to the many others who have made possible such an enjoyable and profitable meeting.

William B. Sarles
A. E. Feller
Philipp Gerhardt, *Chairman*

2. The secretary summarized the actions of the Council at its meetings earlier in the week.

3. The acute pressure for more space in the Society's serial publications was described. Also, the steadily mounting work load on our volunteer scientific editors was referred to along with reasons why something must be done to relieve them of as many duties as possible without sacrificing the scientific excellence of our journals. A plan was described whereby it was proposed to increase the basic annual page allotments of the *Journal of Bacteriology* and *Applied Microbiology* and to establish a Society editorial office to assume part of the functions now performed by the scientific editors. It was proposed that part of the cost of the plan would be met by a small increase in dues. After thorough discussion of the proposal it was voted to delete bylaw 2(a) and replace with the following: "Annual dues in the SOCIETY shall be: Regular Members, fifteen dollars ($15.00); Sustaining Members, one-hundred dollars ($100.00); Student Members, two dollars

($2.00)." It was understood that this change will be contingent on approval by a majority of the members responding in a vote by mail.

4. To encourage prompt payment of dues it was voted to amend bylaw 2 (c) to read as follows: "Any person in arrears for dues for one year shall cease to be a Member of the SOCIETY until his arrears shall have been paid, when he may be reinstated by the procedure for the election of new members. The Secretary shall send a written notice of their delinquency, together with a copy of the bylaws pertaining to the subject, to all persons in arrears, at least two weeks before any further action in the matter shall be taken. The names of persons dropped for non-payment of dues shall not appear in the authorship of titles intended for presentation at the Annual Meeting of the following year." (Note: The change involves only the addition of the last sentence.)

5. To facilitate the plan to produce *Bacteriological Proceedings* by photo-offset from author-prepared copy, it was voted to amend bylaw 5 (f) to read as follows: "The abstract submitted shall be supplied in the number of copies and on such forms as the Program Committee shall designate. The subject matter of an abstract shall not have been published prior to the date of the Annual Meeting, unless an exception is permitted by the Program Committee. The accepted abstracts shall be edited by the Program Committee, and shall be pre-printed for the Annual Meeting. Any abstract prepared without conformity with stipulations of the Program Committee or exceeding the amount of text, inclusive of citation of authors and institutions, that is prescribed by the Council of the SOCIETY may be altered or rejected by the Chairman of the Program Committee. Costs of such alterations will be charged to the member of the SOCIETY submitting the abstract. Material intended for round table or similar group meetings shall be subject to rules governing the usual paper, unless exception is made by the Chairman of the Program Committee."

6. To provide for a new Division of Virology, it was voted to amend bylaw 3 to read: "The SOCIETY shall be organized into five divisions, (a) General Bacteriology; (b) Medical Bacteriology and Immunology; (c) Virology; (d) Agricultural and Industrial Bacteriology, and (e) Bacterial Physiology."

7. Two proposals to change the name of the Society were introduced. One, signed by five councilors, favored changing the name to the American Society for Microbiology. The other proposal, signed by 26 members, suggested changing to the Society of American Microbiologists. After extended discussion of (a) whether the name should be changed at all, and (b) various alternative names, it was moved and voted: "That Article I of the Constitution shall be amended to read, 'This Society shall be known as the American Society for Microbiology;' That the Secretary is instructed to present the question to the entire membership for a vote by mail in accordance with Article XIII of the Constitution, and That, if the amendment is approved, steps shall be taken to make the appropriate changes in the Certificate of Association of the Society."

The Business Meeting adjourned at 5:45 p.m.

E. M. FOSTER,
Secretary

REPORTS OF COMMITTEES FOR 1959–60

By requirment of the Constitution, each committee of the Society is supposed to report to the Council at the Annual Meeting. In practice, the reports are written and distributed by mail before the actual meeting date. By the time the August issue of *Bacteriological News* appears much of the material no longer is timely. Therefore, the reports that follow represent abstracts prepared by the Secretary of only those reports that contained information likely to be of interest to a significant segment of the membership. The complete reports were distributed to all members of the Council and are on file in the Secretary's office.

1. Annual Meeting Finance Committee

(Merrill W. Chase, Chairman)

This committee was established in 1946, when the Council formally recognized the financial responsibility of the National Society for the Annual Meeting. The committee is supposed to "direct the collection and expenditure of all convention funds." In addition, it establishes the fees to be paid by exhibitors and for registration. For the 1960 Meeting the local committee presented a tentative budget to the Finance Committee almost a year in advance of the meeting itself. The budget was approved after careful study. Particular attention was given to financial arrangements for the Sunday night mixer and the annual banquet. In view of the steadily rising costs of the mixer during the past several years, the Annual Meeting Finance Committee recommended that a special committee be appointed to consider the value of the mixer and various methods of financing it. (See report of Council meetings.) The cost of banquet tickets was discussed at length, especially from the standpoint of "subsidy" in connection with a so-called package deal.

2. Archives (L. S. McClung, Chairman)

The committee prepared a proposal to deposit the Society's archives in the Rare Book department of the new Lilly Library at Indiana University. The library has adequate room for the collection and is willing to house it, keeping it

physically separate from other holdings. Under the plan, the Archivist will prepare a detailed inventory before the material is transferred to the library. The material will be available for loan to scholars on a limited basis subject to approval by the Archivist and the Librarian. The entire collection can be withdrawn at some future date on decision of the Council of the Society. (This proposal has been approved by the Council—see Report of Council Meetings.) Members are reminded that the Archives Committee always is interested in learning of the possible availability of items of historical interest.

3. **Education** (L. S. McClung, Chairman)

The Committee had a very active and productive year. The following items indicate the scope of the activities for 1959–60.

a. More than 1300 copies of various microbiology teaching aids lists, the career brochure, and other material were distributed, on request, to teachers of biology and other interested persons.

b. Though a grant to the Society from Difco Laboratories, the above material and related manuscripts were printed as a special (June, 1960) issue of *The American Biology Teacher*. This was sent to approximately 6000 members of the National Association of Biology Teachers, and SAB members may obtain complimentary copies from the Executive Secretary of the SAB. This issue should be of special interest to those who have requests from high school teachers and pupils for aid on class and science fair experiments.

c. The Committee sponsored a special program relating to Microbiology in Introductory Biology at the Philadelphia meeting.

d. The Society's merit certificates (citations) for award winners at science fairs and contests (and their teachers or sponsors) have been revised and are now being issued by the Executive Secretary's office.

e. At the recommendation of the Committee, the C.P.C. approved a new series of awards ($125 and $75 plus appropriate engraved plaques) to be offered for the best microbiology exhibits at the 1960 National Science Fair. These awards are known as the Society of American Bacteriologists Awards and will be offered again in 1961.

f. The Committee suggested names of microbiologists for the A.I.B.S. Visiting Scientists Program.

g. A Summer Institute in Bacteriology for High School Teachers of Biology will be held at Indiana University, June 27–July 22, 1960, with the Committee on Education serving as co-sponsor. The Institute is supported by the National Science Foundation.

h. The National Science Foundation has made a grant of $9,690 to the Society for revising the brochure "A Career in Bacteriology" and for printing and distributing about 30,000 copies, mostly to members of the National Science Teachers Association. The revision will be done by a committee serving under the auspices of the Committee on Education.

i. Consideration is being given to sponsorship of two publications, "Handbook of Bacteriology" (a technique manual for introductory biology teachers and others) and "A Source Book of Microbiology" (advance level experiments).

Other than aid with item i, perhaps the greatest need at present confronting the Committee relates to its desire to initiate programs on education and career stimulation in those Local Branches of the SAB which have not yet begun such activity. An attempt is being made, with little success to date, to collect and exchange information concerning existing programs.

4. **Materials for Visual Instruction in Microbiology**

(Harry E. Morton, Chairman)

Financial Report

Receipts:		
Balance, cash on hand 3/14/59	$ 395.66	
Income from sale and rental of Visual Aids	1,945.10	
		$2,340.76
Disbursements:		
Photographic materials	$1,201.00	
Rejuvenation of films	73.71	
Printing and Stationery	178.85	
Postage	162.61	
Speaker at annual meeting	53.57	
Repairs to recorder	27.89	
Secretairal services July 1, 1959 to June 30, 1960	320.00	
Transportation	15.55	
Film storage cabinets	96.10	
Telephone and telegrams	5.16	
		$2,134.44
Balance, cash on hand March 18, 1960		$ 206.32

(There are unpaid invoices amounting to about $400.00 and no unpaid bills.)

Four films were reviewed during the year. Abstracts are available from the Chairman.

Abstract No. and Title of Film			
267	Life of the molds. Color, sound	900′	(1958)
268	Care and sterilization of surgeons' gloves. Color, sound	500′	(1957)
269	Rabies: Its cause, its effects, it control. Color or black & white, sound	500′	(1958)
270	Hospital sepsis: A communicable disease. Color, sound	1100′	(1959)

The Committee has added the following still pictures to its collection. These are available for purchase in either 5 x 7 or 8 x 10 inch black and white photographic prints or as 2 x 2 inch or 3¼ x 4 inch black and white glass bound lantern slides. Mimeographed legends are provided with each print or lantern slide. Enquiries regarding these materials should be addressed to the Chairman.

No. and Title of Still Picture

LS 353 Electron micrograph of a thin section of a normal human neutrophil.

LS 354 Electron micrograph of a thin section of human neutrophil in contact with two staphylococcal cells.

LS 355 Electron micrograph of thin section of a portion of a human neutrophil showing nearly complete entrapment of two staphylococcal cells.

LS 356 Electron micrograph of a thin section of a portion of a human neutrophil showing a staphylococcal cell completely entrapped.

LS 357 Electron micrograph of a thin section of a portion of a human neutrophil showing the complete entrapment of 14 virulent staphylococcal cells after 1 hour contact.

LS 358 Electron micrograph of a thin section of a portion of a human neutrophil showing destructive action on the neutrophil after 2 hours contact with virulent staphylococci.

LS 359 Electron micrograph of a thin section of a portion of a human neutrophil showing a non-virulent staphylococcal cell starting to disintegrate after contact of 30 minutes.

LS 360 Electron micrograph of a thin section of a portion of a human neutrophil showing nearly complete destruction of ingested non-virulent staphylococcal cells.

LS 361 Photographs by darkfield illumination of a mixture of *Malleomyces pseudomallei* and *Pseudomonas aeruginosa* treated with fluorescein-labeled anti-*M. pseudomallei* globulin and of the same preparation viewed with ultraviolet light.

LS 362 Photographs by darkfield illumination of a mixture of *Malleomyces pseudomallei* and *Bacillus cereus* treated with fluorescein-labeled anti-*M. pseudomallei* globulin and of the same preparation viewed with ultraviolet light.

LS 363 Photographs by darkfield illumination of a mixture of soil and *Malleomyces pseudomallei* treated with fluorescein-labeled anti-*M. Pseudomallei* globulin and of the same preparation viewed with ultraviolet light.

LS 364 Photographs by darkfield illumination of a tissue impression smear from a mouse infected with *Malleomyces pseudomallei* and treated with fluorescein-labeled anti-*M. pseudomallei* globulin and of the same preparation viewed with ultraviolet light.

LS 365 Electron shadowed micrograph of *Escherichia coli* in contact with lambda bacteriophage particles.

5. **Membership** (Donald E. Shay, Chairman)

Activities of the committee have been directed toward telling people about the Society's programs and inviting qualified individuals to join. Toward this end the committee was enlarged to 19 members to provide wide area coverage. Individual members of the committee have distributed application blanks to prospective members at local branch meetings, in colleges and universities, and in industrial and government laboratories. They have suggested names of potential sustaining members. And they have helped staff the membership committee booth at the Annual Meeting, where delinquent members can pay their dues and new members can join the Society.

A sub-committee has contacted hundreds of industrial microbiologists with invitations to join the Society. Another sub-committee has reached the heads of state health departments, requesting them to encourage Society membership among their employees. Yet a third sub-committee has prepared a revision of the brochures designed to tell prospective members and sustaining members about the Society's programs. In all, over 4,000 microbiologists have been reached with invitations to consider membership in the Society. Similarly, over 460 companies that manufacture or distribute materials used by microbiologists have been reached.

In 1959 slightly over 700 new members joined the Society along with about 25 new sustaining members. (Secretary's note: As of May 20, 1960, the Society had 6,008 regular members and 108 sustaining members paid for 1960. The corresponding figures on December 31, 1957 were 5,035 and 70. The Society's growth in the intervening 29 months is due in large measure to the activities of the Membership Committee.)

The efforts of all members are earnestly solicited in our attempts to encourage every qualified microbiologist to become a member of the Society. Won't you invite your non-member colleagues to join? Application blanks are available in each issue of *Bacteriological News* or on request to the Headquarters Office.

6. **Microbiological Methods** (M. J. Pelczar, Jr., Chairman)

Between October, 1957 and early 1960 almost 7,500 copies of the Manual of Microbiological Methods were sold. Arrangements have been made by the publisher (McGraw-Hill Book Co.) to issue a Spanish language edition.

7. **Placement** (R. W. Sarber, Executive Secretary)

On August 1, 1959, the placement activities were transferred from Dr. M. J. Foter to the Headquarters Office, where they are under the direction of the Executive Secretary. Coincidentally, and to make the placement office self-supporting, several changes were made in the operating procedures:

Registration: Fee left at $5.00 but made non-refundable and not deductible from commissions. For this fee a registrant can remain on the rolls for two years. If he is not placed in that time he can drop his registration or pay another $5.00. Registration limited to Society members to comply with laws of the State of Michigan.

Commission: Increased from 3 per cent to 5 per cent of the first three months' salary.

With the institution of these rules registrants under the old regulations were offered refunds of their registration fees (34 elected to drop their listing.) On December 31, 1959, the end of the period of this report, 155 persons were registered. Following is their classification by sex and level of training.

Male	Per cent	Female	Per cent
B.S.	10	B.S.	42
M.S.	27	M.S.	5
Ph.D.	63	Ph.D.	53

During the first five months of operation in the Headquarters, 97 job notifications were received. The positions are classified as follows:

Type	No.	Level of Training Required	
		B.S and M.S.	Ph.D.
Academic	39	18	21
Government	12	9	3
Hospitals	10	7	3
Industrial	36	24	12
	97	58	39

During the 5-months period of this report, 5 known placements have been made. The Committee believes that this may not represent the total number of placements and concurs with the opinion of the past Director that registrants often are tardy or remiss in making notification of job placements. This is confirmed by the fact that during the period of this report, commissions have been received from registrants on whose placements the former Director had no information.

The following statement shows that the 5 month operation resulted in a net gain of $176.98. It should be pointed out that the high income from commissions was, in part, the result of placements made prior to the transfer of operation to the Headquarters.

Financial Statement

Transferred from Dr. Foter 8-1-59		$1,897.00
Receipts		
Registration Fees—35 @ $5.00	$175.00	
Commissions	919.50	
Special Report	100.00	
		$1,194.50
Disbursements and Expenses		
Registration Fees Refunded 34 @ $5.00	$170.00	
Postage	50.52	
Stationery and Supplies	15.00	
Travel	44.00	
Salaries	594.00	
Carrying Charge	144.00	
	$1,017.52	
		176.98
Balance—12-31-59		$2,073.98

8. **Polar and Marine Microbiology** (F. D. Sisler, Chairman)

This committee originated with the opportunity to include microbiological research in the program for the 1958 International Geophysical Year. It has been continued because of the encouraging prospects of government support of microbiological research in polar regions and increasing interests and activities in marine microbiology. Polar research is continuing and a significant part of the budget is set aside for support of biological projects. The committee stands ready to assist members who wish to submit projects for research in the Antarctic. (See *Bacteriological News*, April, 1959.)

9. **President's Fellowship Awards**

(Arthur K. Saz, Chairman)

During the year, 16 applications for Fellowships have been received, seven of which were approved (funds granted one Fellow were later returned as the promised space was not available due to remodeling of the laboratories), four were rejected, four were withdrawn and one is still pending. The approved Fellowships carried awards totaling $2,552.00. The average award per Fellowship was $425.00.

Three of the Fellows are assistant professors, one is a senior research associate, one is an instructor, and one is a NIH post-doctoral fellow.

10. **Program** (Merrill W. Chase, Chairman)

By the time of its meeting in Detroit on January 19–21, 1960, the committee had received 546 abstracts of papers for the 1960 Annual Meeting. Of these, 11 were declined for late arrival or improper authorship. Of the 535 abstracts considered (representing 10.3% increase over 1959), 11 were rejected and 7 were withdrawn in lieu of being read by title. The remaining 517 were accepted, 488 to be presented (91.3% of titles considered) and 29 to be read by title.

The 488 papers were arranged into 50 sessions (41 in 1959 and 44 in 1958). Twenty per cent more papers were presented at the 1960 meeting than in 1959 owing to the greater number of sessions rooms available.

The *Program* and *Bacteriological Proceedings* were expanded and several new features were added in an effort to make them more useful. Increased recognition was given to the programs of special groups as genuine parts of our Annual Meetings. Special attention was given to the subject index of the *Proceedings* in an effort to simplify the retrieval of information from the abstracts.

The facility offered in Philadelphia to schedule more papers than previously is welcome from the point of using a fair share of the increased number of abstracts that are submitted by an expanding membership (membership increase, 10%; increase in valid abstracts, 10.3%). In 1959, one abstract out of every 6 had to be put aside; in 1960, the figure was 1 abstract out of 12. Expansion of facilities can not be expected to continue and it seems likely that the Society as its size increases must turn aside an increasing number of papers submitted.

It is not to be overlooked that enlarged meetings become disproportionately costly, particularly in the hire or purchase of projection and amplification facilities. Further, the service of projection crews becomes expensive if purchased, and if supplied by volunteer workers increasingly difficult to schedule. Beyond this comes the disadvantage of dissipating audience potential as conflicts-of-interest become less avoidable.

In choosing the papers to be presented, it is inevitable that errors will be made. These fall into special categories:

(a) Displacement of better papers by reason of dividing Sessions spaces among the existing Divisions rather proportionately to past practices. The quality of papers, alone, should be the deciding factor. Some groups of papers can be of interest to but few persons: these should be put out of the larger Sessions rooms and given smaller accommodations. Many of the offerings must receive more critical appraisal in relation to the total program.

(b) Displacement of better papers by "protecting" weaker papers on account of their subject matter. Once a Session is given a title, a seventh paper fitting into the title and "completing" a program is apt to be received more warmly than a severe appraisal would allow. It is likely that the last two papers in a Session must come to be recognized as "open subjects" that may differ from the title given to the particular session.

(c) A different type of disservice may be rendered elements of the Society by unthinking dispersal of papers among various Sessions. Mycology, for example, can be strengthened by grouping and weakened by dispersal.

Construction of the program of an Annual Meeting is a complex matter, and much of the decision-making rests solely on the chairman of a given division. It seems to be the general feeling among the members of the Program Committee for 1960 that one year's service only begins to tap the individual's real potential for judgment in the interests of the Society. Election for a two-year instead of a one-year term would be a decided advantage. Naturally, not all division chairmen should go out of office at one time, but some sort of staggered system whereby part of the division chairmen continue on the committee for a second year would retain a nucleus of experienced individuals and should greatly improve the operation of formulating the program.

11. **Sanitary Methods for the Examination of Water** (P. W. Kabler, Chairman)

The three members of this committee have participated in preparing the manuscript for the 11th edition of "Standard Methods for the Examination of Water and Waste Water", which is expected to be available during the fall of 1960. One member of the committee (Dr. C. C. Croft) has been named as the Society's representative to the U. S. Public Health Service Advisory Committee on the Revision of Drinking Water Standards.

12. **Subcommittee on Actinomycetes**

(David Gottlieb, Chairman)

The committee approved grants totalling $14,250 for research on the taxonomy of actinomycetes. Recipients of the grants were T. C. Pridham, U.S.D.A., Ruth E. Gordon, Institute for Microbiology, Rutgers University, R. E. Buchanan, Bergey's Manual Trust, N. M. McClung, University of Georgia, and C. C. Carpenter, Syracuse University. Funds to support the projects were made available by grants from Eli Lilly and Co., Lederle Laboratories, Bristol Laboratories, Abbott Laboratories, Parke Davis and Co., Chas. Pfizer and Co., the Upjohn Co., and Merck and Co.

Other activities of the committee were:

(1) Organization of a general meeting on the

Taxonomy of Actinomycetes at the 1959 Annual Meeting of the Society.

(2) Publication of the English translation of Gause's Russian book on taxonomy.

(3) Translation and submission for publication of two manuscripts on Actinomyces taxonomy written by N. A. Krassilnikov.

(4) Analysis of the results of the S.A.B. Cooperative investigations on the utility of various criteria for classification of actinomycetes.

(5) Arrangement of a two-day workshop at the University of Illinois on the methods for characterizing actinomycetes (attended by 23 taxonomists).

(6) Assisting in the international criteria testing program, which is now completed.

(7) Appointment of a committee to prepare a color guide for description of actinomycetes which can be distributed internationally for future characterizations in this group of organisms.

13. **Subcommittee on Enterobacteriaceae**

(W. H. Ewing, Chairman)

The first in a planned series of round table discussions on the *Enterobacteriaceae* was organized by the committee at the 1959 Annual Meeting of the Society. The committee has been considering a different system of classification than that used in Bergey's Manual for this group of organisms.

14. **Representatives to Board of Trustees, American Type Culture Collection** (Carl Lamanna and Rudolph Hugh)

The role of the ATCC as a source of cultures for educational, research and commercial establishments continues to grow. For the first three quarters of 1959, a total of 8,487 cultures were distributed as against 5,519 in 1958, an increase of about 40%. A new catalogue of bacterial cultures was published in 1958, and catalogues of animal and plant viruses were published in 1959.

The financial status of the Collection continued to improve, but to maintain a firm base it was necessary to increase the cost of cultures supplied to both non-profit and commercial institutions. In spite of these increases, the cost of cultures to non-profit institutions does not pay its own way.

The past year was marked by substantial increases in grant support of Collection activities by the Public Health Service. A new activity, a Tumor Virus-Tissue Culture Repository, will be developed and supported by these funds.

A major need of the Collection is adequate housing. The year past has seen considerable progress made toward what is hoped will be an eventual solution. The Public Health Service has granted about $92,000 for a new building on a matching funds basis. An effort currently is under way to find sources of matching funds. The National Science Foundation has been approached and Dr. R. D. Coghill has been appointed chairman of a committee to seek funds from private and industrial sources. The hope is to acquire a total of $500,000 for a building. If this goal cannot be met in the immediate future, a building will be planned to which additions can be made as funds become available. It would be helpful if members of the Society will suggest the names of individuals or organizations that might be approached for funds to help the Collection with its building needs. Send your suggestions to the Executive Secretary, who will pass them along to Dr. Coghill's committee.

ELI LILLY AWARD CITATION

for Dr. Wallace P. Rowe

Dr. Wallace Rowe was born in 1926 in the State of Maryland and was graduated from Johns Hopkins School of Medicine in 1948 at the age of 22.

In the succeeding 12 years he has scored a succession of research achievements that assure his name a permanent place in the history of medical virology.

In one of his early studies, carried out largely during a 3 year period in the Navy, Dr. Rowe showed that a virus might kill an animal not through simple destruction of infected cells but rather by another mechanism. In animals pretreated with cortisone or X-ray irradiation the virus of lymphocytic choriomeningitis multiplied freely in the nervous system, but the animals did not die. Treatment of the sort that should have suppressed immune responses was protective.

Dr. Rowe's subsequent achievements have come during his work as an associate of Dr. Robert Huebner of the National Institutes of Health during the past 8 years.

While seeking to cultivate human tonsillar tissue in tissue culture, Dr. Rowe encountered difficulty. After 2 or 3 weeks as apparently healthy cultures, the tissue degenerated. Careful investigation yielded a major discovery—a new virus of a new group now called adenoviruses. This is now recognized as one of the important groups of viruses infecting man.

Pursuing this finding led Dr. Rowe and his colleagues into extensive epidemiological studies. Many contributions to our knowledge of the biology of these and other viral agents resulted. His studies of the epidemiology of salivary gland virus (cytomegalic inclusion disease), for example, showed that a virus generally considered rare in man was a common cause of infection in the children studied. His most recent studies of the polyoma virus represent a major contribution to our knowledge of the biology of tumor producing viruses.

(As read by Dr. C. A. Evans at Annual Meet-

ing of Society of American Bacteriologists, May 1960.)

REPORTS ON ROUND TABLES

The Program Committee has invited the convenors of Round Tables held at the Annual Meeting in Philadelphia to submit short summaries for publication in *Bacteriological News*. These reports will appear as received and as space permits.—Editor.

"The Changing Picture of Urinary Infection Involving Gram Negative Organisms"

Convenor: Alfred J. Weil, Bronx Hospital, New York City.

Dr. Weil showed statistical data from the Bronx Hospital, which illustrated the main changes seen in the laboratory in recent years: an increasing incidence of *A. aerogenes*, and an increasing frequency of resistance by this organism to the most widely used antibiotics. In its ability to produce resistance mutants, *A. aerogenes* has a position among the Enterobacteriaceae similar to that of Staphylococcus among the gram positive cocci. It would appear that these data fairly represented the experience of the participants of this meeting.

Dr. L. Rantz of Stanford University outlined the clinical problems with emphasis on the details of the support expected from the bacteriological laboratory for diagnosis and therapeutic procedures. He feels that a quantitative estimate of urinary bacteria is of great diagnostic value, a point further enlarged upon by Dr. Zangwill of the Harvard services in Boston City Hospital. Amounts of 10^5 bacteria/ml are considered diagnostic for chronic urinary infection and indicate the need for prophylactic therapy of bacteriuria in pregnancy. (See Kass, *Bacteriological Reviews*, *24*: 177, 1960). Dr. Seneca of the Dept. of Urology, College of Physicians and Surgeons, Columbia University, commented on the pathogenic propensities of gram positive cocci in the urinary tract and the sudden occurrence of resistance to kanamycin among the organisms causing urinary infection. Dr. T. Anderson (Temple Univ., Philadelphia) discussed routes and modes of urinary infection and the importance of anatomical abnormalities for the "sticking" of infection by microbia which are "opportunists" rather than pathogens in the strict meaning of the term.

The ensuing discussion centered particularly around the merits of bacterial counts versus appraisal by direct microscopy and standard culture methods. This debate brought forward many useful points concerning details of technique (not always found in formal publications), the unavoidable limitations of methods, and the need for judgment in evaluation both by the bacteriologist and clinician.

The success of this Round Table was largely due to the circumstance that it offered an opportunity for a meeting of the "producer" of information (the laboratory man) with the "consumer" (the clinician). That our "consumers" are glad to avail themselves of the opportunity of arriving at better levels of cooperation is characterized by the fact that the medical men went far out of their way in order to attend. Creating opportunities of this kind is one of the things which can be done in order to make further meetings more fruitful and more attractive.

"The Interrelationships of Microorganisms in Soil"

Convenor: Guenther Stotzky, United Fruit Co., Norwood, Mass.

Dr. E. W. Buxton, Rothamsted Experiment Station, England, discussed "Variability in *Fusarium oxysporum* and Its Reactions to Root Exudates and Rhizosphere Microflora." The portion of the roots from which exudates originate apparently influences the abundance, location and time of occurrence of various rhizosphere microorganisms. Nutritional mutants of *Fusarium* were used to study localization and time of exudation, as well as genetic variation in the fungus. The rhizosphere mycofloras of pea varieties that were resistant or susceptible to the pea wilt pathogen were similar, but the occurrence of different fungal species varied with the age of the roots. Rhizosphere fungi, isolated by soil dilution-plate techniques, were tested on synthetic media for antagonism toward the pathogen, but no correlation was found between time of occurrence of most of the fungi and their antagonistic effects; however, when cultured on media which contained root exudates or rhizosphere extracts, some antibiosis against the *Fusarium* was noted. The pea wilt pathogen, *Fusarium oxysporum* f. *pisi*, occurs as three physiologic races which may be differentiated on various pea varieties. This fungus is not known to have a perfect state in nature, but virulence may be altered through heterokaryosis or through a system similar to parasexuality. A physiologic race which was not pathogenic toward a particular pea variety could be made pathogenic by prolonged culturing on media into which root exudates from that variety had been incorporated. Virulence towards a variety could be lowered by culturing the fungus on the exudate of a resistant variety.

Dr. A. L. Neal, Department of Biochemistry, Cornell University, discussed "The Influence of Root Exudates on Emergence of Nematode Larvae," reviewing host specificity, nature of plant resistance, and mechanisms of the stimulatory or inhibitory action of root excretions on nematodes. Root exudates may contain not only substances that stimulate nematode emergence,

but also substances that are toxic and inhibit emergence. There does not appear to be a universal hatching stimulant for encysted nematodes, but rather a specific stimulant for each species of nematodes. The life cycle of the Golden Nematode, *Heterodera rostochiensis*, which infects potato and tomato plants, and past work on the hatching stimulant for this nematode were reviewed. The exact identity of the hatching factor is not known; the material is heat labile, is easily oxidized to an inactive substance, is not a carboxylic acid, contains at least one hydroxyl group, has an R_f value of 8.4 in 80% aqueous phenol, is ether insoluble, has a molecular weight of 216, and has a molecular formula of $C_{13}H_{12}O_3$, as determined by elemental analysis of phosphate derivative using phosphorus as the limiting element. Hatching activity decreases when the exudates are concentrated, presumably due to the removal of some unknown substance which augments the activity of the natural stimulant. Heavy metals appear to be involved in the decreased activity of concentrated root leachings, since larval emergence is decreased when heavy metals, especially zinc, are added back to the original extracts. Certain mineral elements enhance larval emergence as does lowering the pH. Taurine and vitamin B_6, the latter which is essential for this nematode and has been found in root exudates, increased emergence of larvae in the presence of the hatching factor and certain salts. The incorporation of small amounts of crude preparations of the hatching factor into culture media increased mycelial weight, acid production, and respiration of *Aspergillus awamori*. Studies with *A. awamori* and *Pseudomonas aeruginosa* have indicated that the factor stimulates the direct oxidative pathway of glucose and probably must be phosphorylated before it can enter into enzyme reactions. If the hatching factor exerts a similar influence on the Golden Nematode, then an insight may be obtained into the mechanism of action of nematode hatching stimulants.

Dr. A. C. Tarjan, Citrus Experiment Station, University of Florida, Lake Alfred, discussed "The Characteristics and Potential Use of Certain Fungi that Trap Nematodes." The predaceous hyphomycetes contain a group of species that trap and consume nematodes. The most spectacular of the traps is the constricting ring of *Arthrobotrys dactyloides* which requires 0.1 second to ensnare the extremity of a nematode. Some species exhibit a nonconstricting ring; some have a 3-dimensional mesh which functions with the aid of extremely viscous substances secreted by the reticulate elements of the trap; some have a device which relies principally on adhesive finger-like elements which eventually form simple adhesive meshes, and others have simple hyphal extensions that terminate in an adhesive knob. Once the victim is snared, hyphae from the fungi penetrate the integument of the nematode, form a globular haustorial body from which trophic hyphae emanate, and these eventually consume the body contents of the worm. The trapping fungi are capable of growing saprophytically in most soils, and their predaceous type of growth is apparently triggered by the presence of sufficient nematodes which set up a tropic response, most probably chemical in nature. One such substance, nemin, has been isolated from nematodes. The trapping structures, however, may normally be present in some species and do not require the stimulation of a chemical substance. Methods of isolating these fungi from soil and suitable media for their growth and sporulation were discussed. *Arthrobotrys musiformis* and *Dactylaria thaumasis*, cultured on an oat hull medium, have effectively trapped a test nematode, *Panagrellus redivivus*, in the laboratory. Potential uses of nematode-trapping fungi for the control of plant parasitic nematodes in the field were explored.

"Newer Concepts of Listeria Monocytogenes as a Pathogen"

Convenor: M. L. Gray, Montana State College, Bozeman.

The majority of the 30–40 persons attending consisted of diagnostic laboratory personnel. From their comments it was apparent that *Listeria monocytogenes* is encountered in routine diagnostic work more frequently than is generally suspected. The discussion emphasized emphatically that an educational program is required if the true incidence of listeric infections is to be determined. This program must be directed toward dispelling three important misconceptions: 1) that *all* small, gram positive, diphtheroid-like rods isolated from blood, spinal fluid, throat swabs, vaginal swabs, etc. are "contaminants"; 2) that *L. monocytogenes* attacks primarily the central nervous system; 3) that since *L. monocytogenes* grows well after isolation, it is always easy to isolate from infected material. The importance of "awareness" of listeric infections was strikingly demonstrated by the fact that the incidence is highest in areas where an effort has been made to educate laboratory personnel to the presence of the bacterium. Where such a program is put into effect, listeric infections cease to be rare. This was shown rather dramatically by a report on the origin of 121 cultures from human sources submitted during the past 6 months to the Montana Veterinary Research Laboratory for serological typing. California, Louisiana, and New York each contributed more than 25 cultures. The remainder represented 20 states, the District of Columbia, and Mexico. These cultures represented 4 serological types:

72 belonged to type 4b, 47 to type 1, 1 to type 4a and 1 to type 3.

Attention was also focused on the occasional isolation of *L. monocytogenes* from the blood of patients with endocarditis and neoplastic diseases; from abscesses or surgical wounds in patients showing no symptoms related to an active infection; from ear and throat swabs of either asymptomatic patients or those showing a mild flu-like syndrome or otitis media; and from pimplelike pustules on the hands and face. Although the significance of the bacterium in these cases remains undetermined, it suggests that many individuals may be carriers. The epidemiology of all forms of listeric infection remains obscure but there are suggestions that the disease is most prevalent among lower income groups. The role of animals or animal products in transmission of the disease to man has not been determined. From information presently available, it appears that in contrast to Europe, listeric infection in the United States is more prevalent in urban populations than in rural, and that it is more common among adults than among neonates.

BACTI NEWS FEATURE

ALIQUOT AND SAMPLE

CHESTER W. EMMONS

Medical Mycology Section, Laboratory of Infectious Diseases, National Institutes of Health, Bethesda, Md.

The word "aliquot" is misused frequently in the literature of biology as a pretentious substitute for "sample". Aliquot has a precise meaning, useful in analytical chemistry and in any laboratory science, to express a mathematical relationship between a portion of, e.g., a solution, and the whole volume of that solution.

The response of some authors to an editorial correction of the erroneous use of aliquot is to state categorically that an *aliquot* is a representative portion of, e.g., a suspension, and that the word *sample* carries no such connotation. This is exactly contrary to fact and the frequent misuse of aliquot seems to justify publication of a note on the subject.

Webster's New International Dictionary, 2nd Edition, 1959, defines these words as follows: "aliquot, adj. Designating a division which divides without a remainder a number greater than the divisor, submultiple; thus 5 is an *aliquot* part of 15. Opposed to *aliquant*". "aliquant, adj. Designating a part of a number or quantity that does not divide the number or quantity without having a remainder; thus, 5 is an aliquant part of 16. Opposed to *aliquot*".

"sample, n. 2. A part of anything presented for inspection, or shown as evidence of the quality of the whole, a specimen".

Funk and Wagnall's New Standard Unabridged Dictionary of the English Language gives essentially the same definitions.

"aliquot, I. a. Contained in something else an exact number of times; said of a part or division, as, 6 is an *aliquot* part of 12 and 18. II. n. An aliquot part".

"aliquant, a. Contained in another number or quantity, but not without remainder; as, 4 is an *aliquant* part of 9. Compare aliquot, a".

"sample, I. n. A portion or piece taken as a representative of the whole; a part selected or taken at random as a fair or average example of the quality of all."

If 100 ml of a suspension of bacteria are poured into a cylinder and 3 ml are withdrawn immediately, and while the bacteria are evenly dispersed, the 3 ml represent a true *sample*, because this fraction is representative in quality of the entire 100 ml. It is not an *aliquot* because 3 is contained in 100 with a fractional remainder.

If 100 ml of a suspension of bacteria are poured into a cylinder and allowed to stand until the bacteria have begun to settle out, a *sample* can not be taken until the bacteria are resuspended. If, after settling, one 10 ml portion is taken from the bottom and one 10 ml portion is taken from the upper part of the liquid column, both are aliquots but neither one is a sample.

When the statistician tests the uniformity or adequacy of a sample, he is actually testing a portion or group to determine if it is, in fact, a sample.

The concepts of uniformity and representation of the whole are implicit in *sample*. *Aliquot* expresses a mathematical relationship of a portion to the whole. Evolutionary change and development in language often serve useful purposes, but, in this case, the debasement of the word aliquot serves no useful purpose and destroys the precision of a word for which there is no adequate synonym.

NEWS AND ANNOUNCEMENTS

CALL FOR ELI LILLY AWARD NOMINATIONS

Nominations for the 1961 Eli Lilly and Company Award in Bacteriology and Immunology are invited. The award is made annually to a young microbiologist who has performed outstanding research in bacteriology or immunology. To be eligible the nominee shall be less than 35 years of age on April 30, 1961 (birth date after April 30, 1926).

Pertinent portions of the rules governing the award are quoted below: "The Eli Lilly and Company Research Award is made for the purpose of stimulating fundamental research in bacteriology and immunology in the United States and Canada by a young man or woman working in a non-commercial research or educational institution. The Award consists of $1,000 and a bronze medal. In addition, the traveling expenses incidental to conferring the medal are paid.

"For the purpose of this Award, outstanding research is understood to be that which is of unusual merit for an individual on the threshold of his career. The research is not to be judged in comparison with the work of more mature and experienced workers, and in judging various researches, special consideration shall be given to the independence of thought and the originality shown.

"Nominations for this Award may be sent to the Secretary of the Society of American Bacteriologists by an individual qualified in the field of bacteriology and/or immunology except the members of the Award Committee. No person shall send in more than one nomination. At the time of the nomination the moninee must be actively engaged in the line of research for which the award is to be made."

Nominations in *five* copies shall be accompanied by:

1. Brief biographical sketch of the nominee, including month, day and year of birth.
2. List of publications.
3. Specific reference to the research on which the nomination is based.
4. Supporting letters, if possible. (No reprints or manuscripts should be submitted.)

All nominations received by **November 1, 1960** will be transmitted to the Nominating Committee, whose duties are "to receive nominations transmitted by the Secretary of the Society of American Bacteriologists and take such steps as may seem to it desirable to secure nominations of others deemed worthy of consideration for the Award. Upon the expiration of the time for the receipt of nominations, the Nominating Committee shall transmit the data on all completed nominations to the chairman of the Award Committee."

"The Award Committee shall reach a decision by January 1st of the year that the award is to be made. The first announcement of the award shall be made at the annual meeting of the Society of American Bacteriologists. The recipient of the Award shall be asked to report on his work at the meeting at which the award is to be made. If, in the opinion of the Award Committee, there is no outstanding eligible nominee, the award may be passed and the funds used for a later award."

Send nominations **not later than November 1, 1960 to:**

E. M. Foster
311 Bacteriology
University of Wisconsin
Madison 6, Wisconsin

Five copies of all material must be submitted. (Note: The deadline for nominations is two months earlier than in the past to permit scheduling of the address by the Program Committee.)

DUES INCREASE APPROVED

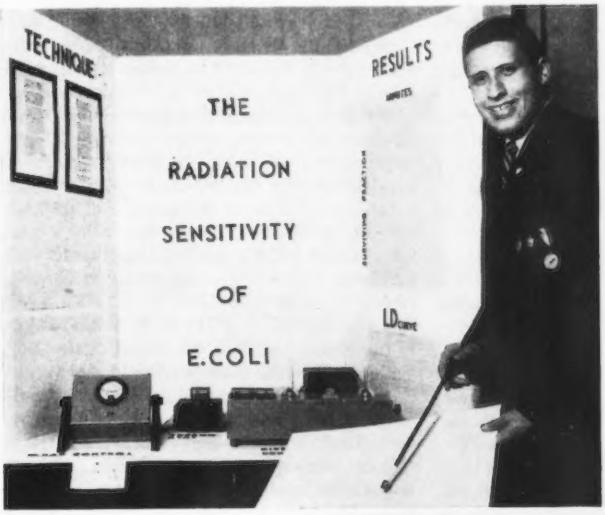
The Tellers' Committee appointed by President Evans to count the ballots on the dues increase proposal, consisted of James Greer, Chairman, George Coffey and John Howells. The Committee met in the Society's headquarters to count the ballots and reported the results as follows:

Yes (to increase dues)	2373
No	299
Voided ballots	16
Total votes cast	2688

The proposal which would set regular dues at $15 and sustaining member dues at $100 per year was, therefore, approved by a substantial majority of the ballots cast.

NATIONAL SCIENCE FAIR WINNERS

The Society made its first presentation of the Society of American Bacteriologists Awards at the 1960 National Science Fair-International, held in Indianapolis, Indiana in May. The Society gave its First Award to Barry Ronald Dworkin, 16, Amundsen Sr. High School, Chicago, Ill., for "The Mitotic Sensitivity of *E. coli*." He won an engraved plaque, certificate of merit, and $125 to further his career in science. Second Award went to Mary Sue Wilson, 16, Malcolm Price Laboratory School, Cedar Falls, Iowa, for "Mutational Origin of Bacterial Resistance to Antibiotics." She received an engraved plaque, certificate of merit, and $75. The winners' schools also received engraved plaques. Honorable Mentions were made to Robert Herman Baum, 18, Melbourne, Fla., J. Steve Smith, 17, Oklahoma City, Okla., Marilyn Pui-lin Yee, 16, Honolulu, Hawaii.



BARRY DWORKIN
First Award Winner

MARY SUE WILSON
Second Award Winner

COPY FOR 1961 PROGRAM

A reminder is given by the Chairman of the Program Committee that all material intended for inclusion in the *Program* of the 61st Annual Meeting must be sent to arrive in his office by January 5, 1961 (the same due date as for Abstracts).

Plans must have been formulated in detail, with names of panelists, leaders, and other responsible persons. It will not be possible to secure inclusion in the *Program* of materials that fail to meet these specifications, or to reserve specific space for events that are not "firm."

The only exception possible will be assignment of space for such meetings of standing Committees of the Society *as are closed to the general membership.*

It is suggested that those intending to organize meetings to be held in Chicago initiate their planning no later than September and complete it by early December. By December, the date of April 23, 1961, will still seem to be remote but January 5th will be all too soon at hand.

AMERICAN ACADEMY OF MICROBIOLOGY

At their meeting in Philadelphia, the Governors of the Academy, believing that progress was being made towards certification at the Ph.D. level, decided to begin at once a program of recognition of microbiologists at the B.S. level. The need for such a program has been clearly recognized for some time and the Governors have been considering just how it could be accomplished.

The Council on Education and Laboratories has had a sub-committee studying basic requirements for work in the field of microbiology. This committee, composed of Riley D. Housewright, R. W. Stone and Orville Wyss, prepared a report which was presented by Dr. Housewright at the Conference on Education and Professional Standards in Microbiology on April 30, 1960 in Philadelphia. The reports given at this conference in addition to that of Dr. Housewright all contributed to the decision of the Governors to instruct the American Board of Microbiology to proceed forthwith to develop a program of recognition of microbiologists at the B.S. level.

The tentative plan is to prescribe in a general way the training in microbiology and basic sciences which is considered necessary for reasonable competency in microbiology. The plan contemplates that individuals having this training and qualified by examination will be registered as microbiologists. A list of such qualified microbiologists will then be published and made available to all interested.

The American Board of Microbiology considered this charge at its meeting in Philadelphia and appointed a committee to develop the program. The committee roster follows:

H. O. Halvorson (Chairman),
R. Donovick
R. D. Housewright
W. W. Ferguson
M. J. Foter
E. W. Shrigley

Dr. Halvorson asked Dr. Howard L. Bodily to act as an advisor to his committee.

A REPORT ON THE 8TH EDITION OF BERGEY'S MANUAL

Bergey's Manual of Determinative Bacteriology originally was sponsored by the Society of American Bacteriologists, and the first three editions were edited and largely written by a Committee of the Society. Direct sponsorship was transferred later to the Bergey's Manual Trust, an independent organization but consisting at present of members of this Society. The Board is charged with the responsibility of using the funds received from royalties or gifts in the preparation and editing of successive editions of the Manual. The S.A.B. is officially represented on the Board by a member nominated by the Council of the Society. (Secretary's note: This representative is Dr. C. F. Niven, Jr.)

Before the death of Dr. R. S. Breed, Chairman of the Board and Editor in Chief of the Manual, agreements were made with publishers for the preparation and publication of the eighth edition of the Manual and of a supplementary volume to be termed the *Index Bergeyana*. The latter is to include as complete a list of the taxa of bacteria as can be assembled from species to orders, arranged alphabetically and with notations as to validity of publication, legitimacy, and source. An extensive bibliography is being developed. The correctness of names and citation of their origin will be emphasized. The eighth edition of the Manual will be conservatively and carefully edited, with special emphasis upon better description of genera and of highest taxa. Improvement of the keys to species and genera will be stressed.

The Board of Trustees designated R. E. Buchanan (Chairman) to supervise and edit the compilation and publication of the *Index Bergeyana* A grant-in-aid from the Society of American Bacteriologists through its Subcommittee on Actinomycetes made possible the preparation and publication of a paper of 105 pages on the nomenclatural status of 220 names of genera to which members of the Actinomycetes have been assigned by various authors. Reprints of this paper from the *International Bulletin of Bacteriological Nomenclature and Taxonomy* were made available at the 1960 meeting of the Society of American Bacteriologists. This article should be of material assistance in decreasing the nomenclatural confusion in the Actinomycetes.

Upon approval of the Board of Trustees, the

Iowa State University requested from the National Institutes of Health a subvention for needed research on the taxonomy and nomenclature of the bacteria in order to eliminate present confusion. A grant was made to cover a period of four years beginning January 1, 1960. The University through the Industrial Research Institute of its College of Science and Humanities has supplied the necessary offices and office facilities together with use of special equipment in its Department of Bacteriology. R. E. Buchanan as chairman of the Board of Trustees has been requested by the Board and designated by the University and the N.I.H. to do what can properly be done as principal investigator for the project until a suitable editor can be secured to supervise the research needed for the proposed publication of the eighth edition.

The collections of reprints of Dr. R. S. Breed on bacteriological nomenclature and taxonomy have been combined with those of R. E. Buchanan and the approximately 3,000 reprints have been catalogued.

Active collaboration is being established with committees and groups of specialists working with taxonomy and nomenclature of various taxa of the bacteria. It is anticipated that contributions from the S.A.B. Committee on Taxonomy and its respective subcommittees will be of distinct value in the preparation of the eighth edition.

A careful search of the literature of bacteriology is being conducted to make the lists of names of described species as complete as possible. Pertinent information has been suitably catalogued and alphabetized on more than 100,000 cards. A staff of six (3 full time and 3 part time) is engaged in work. As far as practicable, photostat copies are being made of the original descriptions of genera and of their type species.

Close liaison is being maintained with the several great culture collections, particularly with the American Type Culture Collection, in a continued endeavor to increase the number of cultures maintained which are truly type or neotype cultures and which may confidently be used as standard cultures. As far as possible descriptions of genera and of species will emphasize comparison with the standard cultures.

C. F. Niven in collaboration with
R. E. Buchanan.

CASSANDRA RITTER MEMORIAL FUND

Friends and relatives of Cassandra Ritter have established a memorial fund with the Endowment Association of Kansas University for an annual monetary award to a major in the Department of Bacteriology, Kansas University. Miss Ritter who passed away in February of this year, was a member of the Society for 30 years.

CELL CULTURE COLLECTION COORDINATING COMMITTEE ESTABLISHED

During the past year virologists concerned with the etiology of human cancer and cell culturists interested in virus research, have held several meetings under the auspices of the National Cancer Institute. Their review of the problems developing in the rapidly growing field of mammalian cell culture has pointed out the urgent need for a systematic process of characterizing and certifying cell lines, with provision for the establishment of reference or prototype cultures in long term frozen preservation, as well as an adequate supply of certified seed stocks available to all qualified investigators.

To help realize these objectives and form the basis for a new disciplinary approach to cell cultures, a new national committee has recently been set up on a non-governmental basis.

The new committee, under the Chairmanship of Dr. Jerome T. Syverton of the University of Minnesota Medical School, plans to seek the advice and cooperation of various scientists now working in or concerned with cell culture. Members of Dr. Syverton's committee are: Dr. John F. Enders, Research Division, Infectious Diseases, Children's Medical Center, Boston, Dr. William A. Clark, American Type Culture Collection, Washington, D. C., Dr. Lewis L. Coriell, South Jersey Medical Research Foundation, Camden, New Jersey, Dr. Cyril S. Stulberg, Child Research Center of Michigan, Detroit, Dr. Joseph W. Beard, Duke University School of Medicine, Durham, North Carolina, Dr. John G. Kidd, Cornell University Medical School New York City, Dr. Morgan Harris, Department of Zoology, University of California at Berkeley.

The Committee is immediately interested in developing criteria for certifying strains of mammalian cells, and desires the support and active participation of cell culturists, cytologists, microbiologists, and related scientists of all disciplines in order that an appropriate program may be set up.

At present, fourteen different laboratories in the United States have indicated an interest in assisting with this effort. Of these, two are planning to undertake some major portion of the tasks of cell line characterization and certification. A third laboratory will act as a central repository and distribution center.

Dr. Lewis L. Coriell at Camden, New Jersey, and Dr. Cyril S. Stulberg, at Detroit, have agreed to establish the first two major centers for the study and banking of cell strains. Dr. William A. Clark of Washington, D. C. will serve as director of a central repository for the characterized strains and will receive for frozen storage over liquid nitrogen any prototypes which can be so certified by the Committee, together with matching anti-

sera, and seed stock for long-term preservation. Research on preservation, storage procedures, and revival techniques will also be carried out.

Qualified investigators who wish to participate in this program with a responsible commitment to devote some time to these objectives should write Dr. Jerome T. Syverton, Chairman, Cell Culture Collection Coordinating Committee, Department of Bacteriology, University of Minnesota Medical School, Minneapolis 14, Minnesota.

DEPARTMENT AND DEGREE SURVEY

The Society's survey of departments offering degrees in microbiology has created considerable attention. The survey was displayed at the Philadelphia meeting where over 100 copies were sold. Copies may still be obtained from the Society's Headquarters for 50 cents each.

Although the list is thought to be quite complete, revisions will be made as additional information is received. Those who now have the list may wish to make the following additions: Oklahoma State University has added the Ph.D., University of Houston offers B.A., B.S., M.S. and Ph.D. degrees; North Texas State College, Denton, and Carnegie Institute of Technology, Pittsburgh, both grant B.S. and M.S. degrees.

WANTED: BACK ISSUES OF BACTERIOLOGICAL NEWS

As a permanent record and as a source of information, the Society's Headquarters has need of a complete set of *Bacteriological News* and its predecessor the *Newsletter*. Numbers needed are those prior to Volume 19 (1953). If any member has these early issues—complete or incomplete—and would consider presenting them to the Headquarters, please communicate with the Executive Secretary.

MICROBIOLOGICAL MEDIA COMMISSION ESTABLISHED

After many years of dedicated effort by a number of individuals and groups, the Microbiological Media Commission was incorporated in the State of Ohio on February 23, 1960 as a non-profit corporation for the purposes of "The establishment of standardization and uniformity in the identity, composition, performance, and labeling of the more important microbiological culture media, ingredients and reagents in order to assure constant growth-promoting qualities for microorganisms so that results obtained in biological control and in investigations in different laboratories will be consistently reliable." This action resulted following resolutions or letters endorsing the formation of such a Commission from organizations which included the American Dairy Science Association, Association of Official Agricultural Chemists, International Association of Milk and Food Sanitarians, and the Society of American Bacteriologists.

The Commission was incorporated in the name of Luther A. Black, Harold F. Clark, and Joseph C. McCaffrey, and the following designated as the first trustees:

M. Thomas Bartram, Chairman
Archie H. Robertson, Vice-Chairman
Harold F. Clark, Secretary
Glen L. Hays, Corresponding Secretary
William J. Noble, Treasurer
Luther A. Black
F. Wellington Gilcreas
Harry E. Goresline
Joseph C. McCaffrey
Wallace W. Sanderson
Leander S. Stuart

THANKS FOR ABSTRACT SETS

Proof that someone reads the *News* has been provided by the response to the request made in the April issue for unused sets of the 1960 meeting abstract forms. A sufficient number has been received and the Editor would like this to serve as an individual thank you to each member who responded.

UNIVERSITY OF MARYLAND LECTURES AVAILABLE

The 1959–60 series of "Lectures in Theoretical and Applied Aspects of Modern Microbiology" of the Department of Microbiology at the University of Maryland, College Park, has been completed. The following were presented:

1. "Dipicolinic Acid and Bacterial Spores" by J. W. Foster, Department of Bacteriology, University of Texas.

2. "The Actinomycetes—Challenge to the Taxonomist" by D. Gottlieb, Department of Plant Pathology, University of Illinois.

3. "Microbial Ecology of the Oral Cavity" by N. B. Williams, School of Dentistry, University of Pennsylvania.

There are still a few copies of these lectures available for distribution. They may be obtained without cost by writing directly to the department. In addition, anyone interested in having his name placed on the mailing list for the 1960–61 series, may do so by sending his address on a postcard.

CDC LABORATORY COURSE SCHEDULE

Laboratory Refresher Training Courses at the CDC, Atlanta, Ga., during the period of July 1960 to June 1961 are listed below. Information and application forms may be obtained by writing the Communicable Disease Center, Atlanta 22, Ga.

Dates	Courses	Duration, wks.
Oct. 10–21	Fundamentals of Virology (819)	2
Oct. 31–Nov. 11	Laboratory Methods in the Diagnosis of Tuberculosis (855)	2
Nov. 28–Dec. 2	Laboratory Methods in the Diagnosis of Rabies (826)	1
Dec. 5–9	Bacteriophage Typing of Staphylococci (856)	1
Jan. 9–Feb. 3	Laboratory Methods in Medical Mycology (815)	4
Jan. 23–Feb. 10	Serologic Methods in Microbiology (941)	3
Jan. 30–Feb. 10	Laboratory Methods in the Diagnosis of Tuberculosis (855)	2
Feb. 13–24	Laboratory Methods in the Study of Pulmonary Mycoses (817)	2
Feb. 27–Mar. 17	Laboratory Methods in Medical Bacteriology (838)	3
Mar. 6–10	Laboratory Diagnostic Methods in Veterinary Mycology (940)	1
Mar. 13–31	Laboratory Methods in the Diagnosis of Viral and Rickettsial Diseases (820)	3
Mar. 20–24	Special Problems in Medical Bacteriology (839)	1
Mar. 27–Apr. 7	Laboratory Methods in Enteric Bacteriology (850)	2
Apr. 3–7	Laboratory Methods in the Diagnosis of Rabies (826)	1
**	Laboratory Methods in the Diagnosis of Malaria (805)	1
**	Special Training in Virus Techniques (821)	2–4
**	Typing of *Corynebacterium diphtheriae* (842)	1
**	Special Problems in Enteric Bacteriology (851)	2
**	Phage Typing of *Salmonella typhosa* (852)	1
**	Laboratory Methods in the Diagnosis of Leptospirosis (853)	1–4
**	Serologic Differentiation of Streptococci (854)	2
**	Special Problems in Microbiology (942)	1–2

** Courses given by special arrangement only.

MEMBERS LOST OR STRAYED

If you know the whereabouts of any of the members listed below, the Society would appreciate it if you would notify the Headquarters Office.

Cords, Jr., Carl E.
3406 N. 12th St.
Phoenix, Arizona

Durand, Rene R.
1825 Francisco,
Berkeley, California

Forney, Clare E.
6145 N. Winthrop St.
Chicago 40, Illinois

Gurley, Caroline R.
3241 N. St. NW
Washington, D. C.

Mays, Carl G.
508 14th St.
Albuquerque, New Mexico

Mudge, Courtland S.
University of California
Davis, California

Savage, Wm. G.
Woodrom Mead
Corfe, Taunton
England

Valentin, Lilybett
Food Tech. Lab.
Agric. Exper. Station
Rio Piedras, Puerto Rico

NOTICES

Sialic Producing Organisms: S. Aaronson, Haskins Laboratories, 305 East 43rd Street, New York 17, New York, is conducting a survey of microorganisms for sialic acid and would very much appreciate receipt of dried (ca T gram) samples.

Oak Ridge Announces Fellowships: The Biology Division of the Oak Ridge National Laboratories and the University of Georgia has established a training program for both predoctoral and postdoctoral research fellows. Stanley F. Carson has been appointed Research Professor of Bacteriology and G. David Novelli Research Professor of Biochemistry.

New Science Building at New Hampshire: The University of New Hampshire has dedicated the Spaulding Life Science Building which will house the departments of Bacteriology, Biochemistry and Zoology. Rene J. Dubos and James A. Shannon spoke at the dedication.

NSF Basic Research Proposals Deadline: The Division of Biological and Medical Sciences of the National Science Foundation announces that the next closing date for receipt of basic research proposals in the Life Sciences is September 15, 1960. Proposals received prior to that date will be reviewed at the fall meetings of the Foundation's advisory panels and disposition will be made approximately four months following the closing date. Proposals received after the September 15, 1960 closing date will be reviewed following the spring closing date of January 15, 1961. Inquiries should be addressed to the National Science Foundation, Washington 25, D. C.

CDC Announces Conference: The Fifth CDC Biennial Conference for Public Health Veteri-

narians and Teachers of Preventive Medicine will be held September 12–17, 1960 at the new facilities in Atlanta, Georgia. The major portion of the program will be devoted to discussions of the more important diseases of animals transmissible to man. Other sessions will encompass the newer developments in veterinary public health, such as mastitis, meat hygiene, comparative epidemiological investigations and laboratory animal diseases. The meetings are open to public health veterinarians, teachers of veterinary preventive medicine, research workers in comparative medicine, and other interested persons.

Radionuclides in Foods: A two-week course entitled "Radionuclides in Foods" will be presented September 12–23 at the Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio. The course is designed for professional personnel responsible for the surveillance of radioactive materials in milk and food. It provides technical training in methods for the sampling and assay of radioactive contaminants and discussions on procedures for data interpretation and on problems in this environmental area. Introductory sessions are devoted to radiation fundamentals and instrumentation. They provide a foundation for later discussion of: (1) sources of radionuclides in foods; (2) aquatic food chains; (3) terrestrial food chains; (4) milk and dairy products; (5) sampling procedures; (6) radiochemical procedures; (7) maximum permissible concentrations; and (8) public health significance of radionuclides in foods. Applications should be addressed to the Chief, Training Program, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio.

Bacteriological Proceedings Available: Emeritus or Retired members of the Society may obtain a complementary copy of the 1960 issue of *Bacteriological Proceedings* by writing to the Executive Secretary.

Fellowships: A number of predoctoral and postdoctoral fellowships are available in the Section of Microbiology, M.D. Anderson Hospital and Tumor Institute, Houston, Texas. Interested persons should contact Dr. Daniel Billen at the above address.

Teacher Recognition: At the annual meeting of the National Science Teachers Association in Kansas City, 56 science teachers received Science Teacher Achievement Recognition awards of $100 to $1000 each and totaling $13,500.

Warner-Lambert Lectures: The Warner-Lambert Research Institute Lectures in Medical Microbiology were held at the Institute of Microbiology, Rutgers, May 31 and June 1 and 2. Prof. Ole Maaløe, University Institute of Microbiology, Copenhagen, discussed "Bacteria as Parasites and Individuals."

Mexican Association: The Asociacion Mexicana de Microbiologia is organizing its Third National Congress of Microbiology to be held October 12–16, 1960 in Mexico City. Individuals interested in the Congress should write Dr. C. Casas Campillo, Cipres No. 176, Mexico 4, D.F.

Systematic Microbiology. The Society for General Microbiology has announced the formation of a Microbial Systematics Group to "Assist and advance the study and practice of the systematics of microorganisms." Secretary of the group is Dr. P. H. A. Sneath, National Institute for Medical Research, Mill Hill, London, N.W. 7, England.

AWARDS

Rene J. Dubos, Rockefeller Institute for Medical Research, received the $5000 Passano Award for 1960 for his work in specific enzymes and the preparation of antibiotics from soil microorganisms.

Charlotte C. Campbell, Walter Reed Army Institute of Research, has been awarded the Army's Meritorious Service Award for her "contribution to medical and scientific units in this country and abroad."

Theodore T. Puck, professor of biophysics at the University of Colorado School of Medicine, was selected by the Association of American Medical Colleges to receive the 1959 Borden Award, consisting of a gold medal and $1000, in recognition for developing a method of cultivating and studying single mammalian cells.

Thomas G. Pridham of the Northern Utilization Research and Development Division in Peoria, Illinois, received the U. S. Department of Agriculture Superior Service Award and Silver Medal, in ceremonies at Washington, D. C., in recognition of his contributions to the identification and classification of microorganisms in the actinomycete group.

Pauline E. Holbert, Institute of Microbiology, Rutgers, was the recipient of the Royal Microscopical Society Medal, presented on May 21st by Sir John Bunyan, President of that Society. The medal was in recognition of the highest award given at the Annual Exhibit of the New York Microscopical Society. Miss Holbert, a Fellow of the Royal Microscopical Society, exhibited an electron photomicrograph of sporangia and spores of *Bacillus polymyxa*.

NEWS ABOUT OUR MEMBERS

Anatole Crane has joined the research staff of the Quaker Oats Co., Barrington, Ill.

M. H. Van Tassell has moved from Anheuser-Busch in St. Louis to Sheffield Chemical Co., Oneonta, New York.

Elizabeth Wilson, formerly at the Taft Engineering Center, and Secretary-Treasurer of the

Ohio Branch, has joined the staff of the USPHS at Chamblee, Ga.

Bernard J. Strauss has left the Department of Zoology, Syracuse University, to become Associate Professor of Microbiology at the University of Chicago.

Leslie A. Chambers has been named Scientific Director, Allen Hancock Foundation, Los Angeles, California.

Morris A. Cynkin, formerly at the N.I.H., has joined the Dept. of Biochemistry, Tufts University Medical School.

Valey Menkin has been appointed Professor of Pathology and Chairman of the Department at the University of Kansas City School of Dentistry.

Frank L. Horsfall, Jr., has been appointed President and Director of the Sloan-Kettering Institute, New York City.

William R. Martin of the Department of Microbiology, University of Chicago has been appointed a Senior Research Fellow of the U. S. Public Health Service.

Dorothy M. Powelson has left Purdue University to join the Department of Biological Science, Stanford Research Institute, Menlo Park, Calif.

Henry Drexler, formerly at the University of Rochester, is now at University of Southern California School of Medicine, Los Angeles.

The National Science Foundation has announced the appointment of **Harve J. Carlson** as Program Director for Biological Facilities in the Division of Biological and Medical Sciences.

Kingston S. Wilcox, formerly Director, Bureau of Laboratories at the New Haven, Conn. Department of Health, has been appointed Chief, Bureau of Laboratories of the Department of Health, Hawaii.

Karl F. Meyer, director emeritus of the George Williams Hooper Foundation for Medical Research of the University of California, received the 1960 Howard Taylor Ricketts Memorial Award of the University of Chicago.

S. H. G. Allen has left the University of Connecticut to become a postdoctoral fellow in the School of Medicine, Western Reserve University.

Samuel J. Ajl, Program Director for Metabolic Biology, National Science Foundation, has become Director of Research at the Albert Einstein Medical Center in Philadelphia.

Robert S. Fulghum has been appointed to the faculty of the Biology Department, Susquehanna University.

M. R. J. Salton, the ONR Speaker at the Society's Annual Meeting in Philadelphia, delivered on April 25–27, the Fourth Ciba Lecture Series in Microbial Chemistry at the Institute of Microbiology, Rutgers University. Dr. Salton's subject was "Microbial Cell Walls."

John C. Ayres, Department of Dairy and Food Industry, Iowa State University, has received a grant from the National Science Foundation for the purpose of participating in an international symposium on *Pseudomonas* and *Achromobacter* conducted by the Society for Applied Microbiology at Bangor, Wales in July. He will present a paper, "The Relationship of Organisms of the Genus *Pseudomonas* to the Spoilage of Meat, Poultry and Eggs," and will also discuss research on meats, poultry, and eggs at the Low Temperature Research Station in Cambridge, the Torry Research Station, and the Universities of Reading and Glasgow.

Albert B. Sabin has been named the University of Cincinnati's first distinguished service professor in honor of his outstanding research on viral diseases.

Recently elected to the National Academy of Sciences on the basis of their distinguished and continued achievements in original research were **Salvador E. Luria** and **Theodore T. Puck.**

LOCAL BRANCH ACTIVITIES

NEWS FROM THE BRANCHES

Illinois

On May 21, the Illinois Branch, at its Thirteenth Annual Pasteur Award Meeting, also celebrated its Silver Anniversary. Dr. H. Orin Halvorson of the University of Illinois, was the recipient of the Pasteur Award which is given annually to an outstanding midwestern bacteriologist.

Thirty-six charter members were presented with the Branch's Merit Awards in recognition of 25 years of active membership in the Illinois Branch. The Society extends congratulations to the Illinois Branch on its Silver Anniversary, and to the charter members for their faithful service.

Indiana

The Education Committee of the Branch has organized on a state-wide basis its program to make young people in the state more familiar with science and aware of career opportunities in bacteriology. Chairman Paul S. Prickett has announced that Indiana has been divided into regions and districts and Regional and District Directors have been appointed to organize the work. To facilitate the program, the following items are available: (1) working manuals for the Directors containing information and suggestions for their activities, (2) a list of science teachers in Indiana high schools, (3) four free films—"A

Career in Bacteriology," "Bacteria: Laboratory Study," "Microorganisms: Beneficial Activities," "Microorganisms: Harmful Activities."

At the Indiana Junior Academy of Science, the Branch's $25 awards and the Society's Citations were presented to Marilyn Wichman, Washington, for the best exhibit, and to Norman Pace, South Bend, for the best presentation.

Maryland

At its Seventh Annual Awards Meeting on April 23, the Maryland Branch presented its two Achievement Awards, each consisting of a certificate and a one year membership in the Society of American Bacteriologists, given in honor of two men who were members of the Branch and President of the National Society.

The J. Howard Brown Award, given to an outstanding undergraduate or graduate student in recognition of his interest, contribution and promise in the field of microbiology, was presented to Irene B. Fabrikant, University of Maryland School of Medicine.

The Barnett L. Cohen Award, made to one whose contributions, devotion, diligence and interest in microbiology are highly respected, was presented to John H. Brewer, Hynson, Westcott and Dunning Co., Baltimore.

Michigan

The Michigan Branch has established a Publicity Committee with Sheldon Davis as Chairman. The committee hopes to keep the Michigan Branch, the Society and other branches better informed of each other's activities.

Missouri Valley

Adopting the policy that "it is later than you think," the Missouri Valley Branch is seriously working on plans for being host to the Society's 62nd Annual Meeting in Kansas City, May 7–12, 1962. The following general committee has been appointed: General Chairman, A. A. Werder, Vice Chairman, T. R. Hamilton, Treasurer, L. W. Hedgecock, Sessions Rooms, Thorkel Jensen, Publicity, Perry Morgan. This group observed the activities at the Philadelphia meeting and worked closely with several of the Philadelphia Committee Chairmen. At the 1961 meeting in Chicago, it is planned to have all chairmen present and working with their counterparts on the Chicago Committee.

New Jersey

Evelyn M. Witkin, microbial geneticist on the staffs of the Carnegie Institution, the State University of New York Downstate Medical Center, and New York University-Bellevue, became the seventh winner of the Selman A. Waksman Honorary Lectureship Award for outstanding contribution to microbiology. Dr. Witkin won the honor for her research in the field of microbial genetics, especially with regard to studies on mutants in bacteria related to those causing typhoid fever.

The annual award was presented by Dr. Selman A. Waksman, Nobel Prize Winner and past president of the Society, in behalf of the New Jersey Branch at its eighth annual banquet March 17, 1960. The award consists of a bronze medal and a $100 honorarium.

For the third consecutive year, the first and second place winners at the Annual Greater Newark Science Fair had microbiological exhibits Fred Mettler won first place with his exhibit "Behind Heredity" and John Tuttle won second place with his exhibit "Tissue Cultures." Mr. Mettler also was awarded the 3rd Annual Theobald Smith Society Award for the best microbiology exhibit and Mr. Tuttle won honorable mention.

During the year, 13 branch members served as speakers in various New Jersey high schools on the topic "Microbiology as a Career."

New York City

The Society's largest branch reports 800 local members of which 378 belong to the Society of American Bacteriologists.

The Career Guidance Committee, W. A. Corpe, Chairman, is arranging tours through microbiology laboratories for interested school classes and science clubs, and is working with teaching groups to determine the manner in which the science curriculum can be enriched to include more microbiology.

Northeast

The Northeast Branch has awarded a two hundred dollar college scholarship for the outstanding exhibitor selected from the winning microbiology exhibits at the science fairs of the five states within the Branch. The 1960 award goes to Kathyleen Mary McCarten of Cranston, Rhode Island. The scholarship is for the second semester of college.

Texas

The Committee for the Advancement of Microbiology of the Texas Branch, Roland B. Mitchell, Chairman, is working directly with the Directors of each of the sixteen Texas High School Science Fair Districts. The Society's Certificate of Merit is awarded to each microbiology exhibit winner and a continuous effort is being made throughout the year to encourage students to prepare microbiology exhibits and encourage high school teachers to introduce microbiology to their students.

NEW BRANCH OFFICERS

New Jersey Branch

President: Arnold L. Demain, Merck and Co., Rahway.
Vice-President: Allen I. Laskin, Squibb Institute for Medical Research, New Brunswick.
Secretary: Henry J. Vogel, Rutgers—The State University, New Brunswick.
Treasurer: William E. Brown, Squibb Institute for Medical Research, New Brunswick.
Councilor: Werner Braun, Rutgers—The State University, New Brunswick.

Indiana Branch

President: Walter A. Konetzka, Indiana University, Bloomington (to fill unexpired term).
Vice-President: Max Stark, Eli Lilly and Co., Indianapolis (to fill unexpired term).

North Central

Secretary: Homer W. Walker, Iowa State University, Ames (to fill unexpired term).

REPORTS FROM LOCAL BRANCH MEETINGS

Allegheny Branch (E. S. Lindstrom, Secretary-Treasurer)

April 23, 1960. Graduate School of Public Health, University of Pittsburgh, Pa.

1. Role of *Ferrobacillus ferrooxidans* in the oxidation of pyritic material. M. H. Rogoff and M. P. Silverman, U. S. Bureau of Mines, Pittsburgh.

2. Phosphate accumulation by a *Mucor* sp. A. W. James and L. E. Casida, Jr., Dept. of Bacteriology, The Pennsylvania State University, University Park.

3. Sulfate metabolism by chromatophores of *Rhodospirillum rubrum*. M. L. Ibanez and E. S. Lindstrom, Dept. of Bacteriology, The Pennsylvania State University, University Park.

4. Protoplasts of *Streptococcus faecalis* var. *liquefaciens*. A. S. Bleiweis and L. N. Zimmerman, Dept. of Bacteriology, The Pennsylvania State University, University Park.

5. Effect of chloramphenicol on synthesis of protein and nucleic acid by *Shigella flexneri* 3. H. M. Gezon and R. B. Yee, Graduate School of Public Health, University of Pittsburgh, Pittsburgh.

6. Recent developments in the treatment of fungal diseases. J. F. Pagano, Research Supervisor, Squibb Institute for Medical Research, New Brunswick, N. J.

Northern California-Hawaii Branch

(Carl Lamanna, Secretary-Treasurer)

March 28, 1960. University of California at Davis.

1. Microbiology at Davis. Chancellor E. M. Mrak.

2. Specific associations between yeasts and certain insects. H. J. Phaff.

3. Formation of fusel oil by yeast. J. Ingraham.

4. First principles in microbial ecology. R. E. Hungate.

5. Mannitol dehydrogenase of Azotobacter. L. Marcus.

6. The pathogenic Mycoplasmatales. H. E. Adler.

All speakers were from the University of California at Davis.

Guest Speaker: "The Physical State of the Bacterial Nucleus." Professor Edouard Kellengerger, University of Geneva, Geneva, Switzerland.

Connecticut Valley Branch (S. H. G. Allen, Secretary-Treasurer).

April 8, 1960. Wesleyan University, Middletown, Conn.

Lecture: "Genetic Studies on Bacterial Thermophily." T. L. Thompson, Dept. of Bacteriology, University of Nebraska, Lincoln.

Symposium: Aspects of Phage Typing.

Convenor: E. E. Leadbetter, Amherst College, Amherst, Mass.

Participants: H. P. Treffers, Yale University, New Haven, Conn., E. M. Murphy, Conn. State Health Dept., Hartford. E. K. Borman, Conn. State Health Dept., Hartford.

Illinois Branch (C. J. Rickher, Secretary)

May 21, 1960. Morrison Hotel, Chicago.

1. Survival of shigella and related bacteria in Lake Michigan water. L. R. Hedrick, Rose Marie Meyer and M. Kossoy, Biology Dept., Illinois Inst. of Technology, Chicago.

2. Isolation of salmonellae from food samples. Welton I. Taylor, Children's Memorial Hospital, Chicago, and John H. Silliker, Swift & Company, Chicago.

3. An epidemiological study of staphylococci. Harris L. Hitt, John W. Soska and Seward E. Owen, Laboratory Service, V. A. Hospital, Hines, Ill.

4. Electron microscopy studies on spores of *Bacillus coagulans*. John W. Hunnell, Z. John Ordal and Rubin Borasky, Dept. of Food Technology, University of Illinois, Urbana.

5. Ultraviolet photomicrography of yeast cells. G. Svihla and F. Schlenk, Division of Biological and Medical Research, Argonne National Laboratory, Argonne, Illinois.

6. The effect of ultraviolet irradiation on yeast cells. G. Svihla and F. Schlenk, Division of Biological and Medical Research, Argonne National Laboratory, Argonne, Illinois.

7. Gene-controlled ultraviolet induced nutritional mutants of saccharomyces. Donna Sheung Huang and C. C. Lindegren, Biological Research

Laboratory, Southern Illinois University, Carbondale.

8. The production of mutations in bacteriophage by proflavine, ethyl methane sulfonate, 5-bromouracil and nitrous acid. Barbara M. Lesak and J. E. Kempf, Dept. of Microbiology, College of Medicine, University of Illinois, Chicago.

9. Transformation reactions among streptococci. Dennis Perry and Hutton D. Slade, Dept. of Microbiology, Northwestern University Medical School, Chicago.

10. The effects of sonic treatment on viability of streptococcal L-form. Charles Panos, S. S. Barkulis and J. A. Hayashi, Dept. of Biochemistry, University of Illinois, School of Medicine, Chicago.

11. Protective extracts from frozen *Escherichia coli*. Kenneth B. Basa and Harold W. Bretz, Dept. of Biology, Illinois Institute of Technology, Chicago.

12. Detection of latent T5-resistant mutants in *Escherichia coli*. Herbert E. Kubitschek and Harold E. Bendigkeit. Division of Biological and Medical Research, Argonne National Laboratory, Argonne, Illinois.

Symposium: Some Current Aspects of Bacteriophage.

Convener: H. D. Slade

1. Mechanisms of bacteriophage invasion. Lloyd M. Kozloff, Dept. of Biochemistry, University of Chicago, Chicago.

2. Transfer of genetic information in Bacteriophage. I. Tessman, Purdue University, Lafayette, Indiana.

3. Ultraviolet mutagenesis in bacteriophage T4. J. W. Drake, University of Illinois, Urbana.

Pasteur Award Lecture: "Dormancy in Biological Systems," Dr. H. Orin Halvorson, Dept. of Microbiology, University of Illinois, Urbana.

Indiana Branch (Harold Garner, Secretary-Treasurer)

April 1, 1960. Indiana University Medical Center, Indianapolis.

1. The potentiation of preservatives "Parabens" in pharmaceutical formulation by low concentrations of propylene glycol. P. S. Prickett, H. L. Murray and N. H. Mercer, Research Laboratories, Mead-Johnson and Company, Evansville, Indiana.

2. Lytic effect of positively charged peptides on *Escherichia coli* and other Enterobacteriaceae. E. Noller and S. E. Harsell, Dept. of Biological Sciences, Purdue University, Lafayette, Indiana.

3. The effect of substituted phenols on the metabolism of fatty acids and soluble cutting fluid products by *Pseudomonas aeruginosa*. R. H. Bauerle and E. O. Bennett. Dept. of Biological Sciences, and Dept. of Biology, University of Houston, Texas.

4. Formation of antibodies to the sulfanilazo groups in rabbits and the effect of x-irradiation on the response. J. S. Ingraham, Dept. of Microbiology, Indiana University Medical Center, Indianapolis.

5. Studies on the carbohydrate enzyme systems of Rous sarcoma. George Weber and Gouri Banerjee, Dept. of Microbiology and Biochemistry, Indiana University Medical Center, Indianapolis.

6. The influence of glycolysis on the "Crabtree effect." A. S. Levine and J. Ashmore, Dept. of Microbiology and Biochemistry, Indiana University Medical Center, Indianapolis.

7. The conversion of D-glucose to 5-keto-6-deoxy-D-arabohexose. A. D. Elbein, R. L. Mann, H. E. Renis, W. M. Stark, Henry Koffler and H. R. Garner, Dept. of Biological Sciences, Purdue University, Lafayette, and Eli Lilly and Company, Indianapolis, Indiana.

8. A possible role for vitamin K in electron transport. Morton Weber, Dept. of Microbiology, St. Louis University School of Medicine, St. Louis, Mo.

Maryland Branch (Fred E. Ray Secretary-Treasurer)

February 16, 1960. State Health Department Auditorium, Baltimore, Maryland.

1. Significance of pigmentation in staphylococci. John Reback, Dept. of Pathology, Sinai Hospital, Baltimore.

2. Vitamin content and transformylation in *Coxiella burnetti*. William F. Myers, Dept. of Microbiology, School of Medicine, University of Maryland, Baltimore.

3. Propagation of fibroma and myxoma viruses in cultures of rabbit cells *in vitro*. Ollie R. Eylar, Jr., Dept. of Microbiology, School of Medicine, University of Maryland, Baltimore.

March 17, 1960. State Health Department Auditorium, Baltimore, Maryland.

1. Latent or chronic viral infections in tissue culture. A. Brown, Virus and Rickettsial Division, Fort Detrick, Frederick, Md.

April 23, 1960. U. S. Army Biological Laboratories, Fort Detrick, Frederick, Maryland.

1. Aerogenic vaccination against tularemia. H. T. Eigelsbach, J. J. Tulis, E. L. Overholt and W. R. Griffith, Fort Detrick, Frederick, Md.

2. Sporetrichosis: A case report with clinical and laboratory study. J. Rebach and H. Sussman, Dept. of Bacteriology, Sinai Hospital, Baltimore.

3. Attenuated Venezuelan equine encephalomyelitis virus and resistance in mice. H. J. Hearn, Jr. and C. T. Rainey, Fort Detrick, Frederick, Md.

4. Reactivation of the infectivity of the lyophilized preparations of *Rickettsia rickettsii*. R. F. Wachter and E. N. Gilman, Fort Detrick, Frederick, Md.

5. Environmental factors affecting the mor-

phology of Reiter treponeme. P. H. Hardy, Jr. and E. E. Nell, Johns Hopkins University School of Hygiene and Public Health, Baltimore.

6. Some comments on food and drug administration bioassays for antibiotic residues in milk. Amiel Kirshbaum, Director of Control Laboratories, Division of Antibiotics, FDA, Washington, D.C.

7. Variation of *Bacillus anthracis in vivo*. E. S. Beck, M. Kraft Gorelick and H. Shimanuki, Fort Detrick, Frederick, Md.

8. A mortality enhancing extract from *Listeria monocytogenes*. S. J. Silverman, Fort Detrick, Frederick, Md.

9. Aberrant forms of *Coccidioides immitis* found in a pulmonary coccidioidoma. A. G. Smith and J. P. Gillotte, Dept. of Microbiology and Pathology, University of Maryland, Baltimore, Md.

10. Effect of whole body x-irradiation on the susceptibility of mice to attenuated typhus rickettsiae. I. B. Fabrikant and C. L. Wisseman, Jr., Dept. of Microbiology, University of Maryland, Baltimore.

Michigan-Ohio Branches (Elizabeth Wilson, Secretary-Treasurer, Ohio; Marvis Richardson, Secretary-Treasurer, Michigan)

March 18 and 19, 1960. Wayne State University, Detroit.

1. The fine structure and composition of the cell walls of some lower phycomycetes. J. Aronson, Department of Biology, Wayne State University, Detroit, Mich.

2. Nutrition and optimal growth conditions of *Brevibacterium sulfureum*. Carolann Ross, Division of Bacteriology, Department of Biological Sciences, University of Cincinnati, Cincinnati, Ohio.

3. Attempts to detect differences in the d-amino acid content at different stages of growth in *Saccharomyces cerevisiae*. Stephen R. Rohlfing and Robert J. Brady, Department of Bacteriology, Miami University, Oxford, Ohio.

4. Growth of *Bacillus subtilis* in purified gelatin. H. W. Rossmoore and B. Goehler, Department of Biology, Wayne State University, Detroit, Mich.

5. Strain specificity of the repressor effect of inorganic phosphate on the formation of phosphatases in *Escherichia coli*. M. H. Kuo and H. A. Blumenthal, Department of Bacteriology, University of Michigan, Ann Arbor.

6. Reduction of tetrazolium salts by bacteria. S. Maier and J. N. Baldwin, Department of Bacteriology, Ohio State University, Columbus.

7. Oxidative abilities of an activated sludge acclimated to aniline as the sole carbon source. George W. Malaney, Department of Bacteriology, Ohio State University, Columbus.

8. Experimentally induced alterations in nuclear ratios of heterocaryons of a plant pathogenic fungus, *Fusarium oxysporum* f. *pisi*. R. W. Tuveson, Department of Biology, Wayne State University, Detroit, Mich.

9. The role of *Candida albicans* in human sputum. Gerald L. Baum, Chest Service, Veterans Administration Hospital, Cincinnati, Ohio.

10. The isolation and identification of "nonpigmented" and pigmented Serratia from clinical specimens. Vulus R. Dowell, Sue Hoke, and Ruth Hotz, Department of Pathology, Cincinnati General Hospital, Cincinnati, Ohio.

11. Use of fluorescent antibody techniques in the diagnosis of infantile diarrhea and bacterial meningitis. R. H. Page, F. Cohen, and C. S. Stulberg, Child Research Center of Michigan, Detroit, Mich.

12. Detection of antibodies directed against salicylates. L. M. Weiner, Department of Microbiology, Wayne State University College of Medicine, Detroit, Mich.

13. Apparent reversal of isoniazid resistance *in vivo*. Robert C. Good, L. H. Schmidt, Albert A. Grover, and Richard Hoffman, The Christ Hospital, Institute of Medical Research, Cincinnati, Ohio.

14. Therapy by deoxycorticosterone in PPLO infection. D. E. Schoenhard and George A. Padgett, Department of Microbiology and Public Health, Michigan State University, East Lansing.

15. Treatment of experimental sporotrichosis in mice with griseofulvin and amphotericin B. E. Tsubura and J. Schwarz, Clinical Laboratories, Jewish Hospital, Cincinnati, Ohio.

16. Repeated association of staphylococcal antibiograms and phage types. J. E. Greer, and R. R. Menard, Henry Ford Hospital, Detroit, Mich.

17. Production of Beta lysin of *Staphylococcus aureus*. Riaz-ul-Haque and J. N. Baldwin, Department of Bacteriology, Ohio State University, Columbus.

18. Some chemical and physical properties of the phage propagating strains of staphylococcus. C. L. San Clemente and J. Solomon, Jr. Department of Microbiology and Public Health, Michigan State University, East Lansing.

19. Some aspects of age of host tissues and resistance to virus infection. Fred L. Rights, Wayne State University, College of Medicine, Detroit, Mich.

20. Cell physiology and latent viral infection. William H. Murphy, Jr., Department of Bacteriology, University of Michigan, Ann Arbor.

21. Animal viruses studied by the plaque technique. Edward H. Bohl, Department of Bacteriology, College of Veterinary Medicine, Ohio State University, Columbus.

22. The biochemistry of virus infection with special reference to vaccinia. Wayne E. Magee, Department of Biochemistry, The Upjohn Company, Kalamazoo, Mich.

23. Pitfalls in tissue culture studies of neo-

plasms. Ben R. Bermester, The U. S. D. A. Regional Poultry Research Laboratory, East Lansing, Mich.

After-dinner speaker: Dr. William Hubbard, Dean of the University of Michigan Medical School.

Michigan Branch (Marvis Richardson, Secretary-Treasurer)

June 3, 1960. School of Public Health, University of Michigan, Ann Arbor.

1. Selective disruption and isolation of the exosporium membrane of a bacillus. E. A. Bannan and P. Gerhardt, Department of Bacteriology, University of Michigan, Ann Arbor.

2. Studies of intracellular growth of *Salmonella typhosa in vitro*. M. Kourany, and P. L. Kendrick, School of Public Health, University of Michigan, Ann Arbor.

3. Summary of six physiologic characteristics of hospital staphylococci. B. Flood and C. D. Jeffries, Department of Microbiology, College of Medicine, Wayne State University, Detroit.

4. Some bacteriological data on some dermatological patients. J. Greer, R. Menard, and R. Livinggood, Department of Dermatology, Henry Ford Hospital, Detroit.

5. The mechanism of enolase inhibition by sorbic acid. J. J. Azukas, Department of Microbiology and Public Health, Michigan State University, East Lansing.

6. Paper electrophoretic and ion exchange fractionation of the tyrosinases of *Neurospora crassa*. A. F. Fox and J. B. Burnett, Department of Agricultural Chemistry, Michigan State University, East Lansing.

7. Response of HeLa cells to infection by respiratory syncytial viruses. R. Acosta and W. H. Murphy, Jr., Department of Bacteriology, University of Michigan, Ann Arbor.

8. Discussion and demonstration of fluorescent antibody techniques. W. C. Eveland, School of Public Health, University of Michigan, Ann Arbor.

Missouri Valley Branch (L. W. Hedgecock, Secretary-Treasurer)

March 25, 1960. University of Kansas, Lawrence.

1. Metabolic aspects of the tissue mast cell. Dorothy Lynch and Paul Kitos, Dept. of Biochemistry, University of Kansas, Lawrence.

2. Cloning amoebae by plating. Thorkil Jensen and George R. Dubes, Kansas University Medical Center, Kansas City, Kansas.

3. The adsorption of influenza virus on *Aerobacter aerogenes* spheroplasts. Ronald J. Brown and Albert A. Benedict, Dept. of Bacteriology, University of Kansas, Lawrence.

4. Further studies on nitrate reductase in mycobacteria. Loyd Hedgecock and Richard L. Costello, V. A. Hospital, Kansas City, Missouri.

5. Inhibition of D-amino acid oxidase by sulfanilamide and related compounds: An interpretation by resonance theory. Ann Templin and David Paretsky, Dept. of Bacteriology, University of Kansas, Lawrence.

6. Inhibition of carboxylase activity by sulfanilamide and related compounds: An interpretation by resonance theory. Clarence Buller and David Paretsky, Dept. of Bacteriology, University of Kansas, Lawrence.

7. Certain aspects of the respiratory activity of *Histoplasma capsulatum*. Robert G. Garrison, V. A. Hospital, Kansas City, Missouri and Kansas University Medical Center, Kansas City, Kansas.

8. Lysogeny in strains of *Vibrio cholerae*. Franklin S. Newman, Dept. of Bacteriology, Kansas State University, Manhattan.

9. Plaque size variation of Newcastle disease virus. Donald P. Durand and A. E. Eisenstark, Dept. of Microbiology, Univ. of Missouri School of Medicine, Columbia, and Dept. of Bacteriology, Kansas State University, Manhattan.

10. The survival of some enteroviruses in milk. Y. W. Wong and Charles A. Hunter, Kansas State Board of Health, Topeka.

11. Fluorescent antibody studies on the pathogenesis of West Nile virus. W. D. Kundin and Chien Liu, Kansas University Medical Center, Kansas City, Kansas.

12. Facilitation of the infection with ribonuclease-labile poliovirus infectivity. George R. Dubes and Eugene A. Klingler, Jr., Kansas University Medical Center, Kansas City, Kansas.

13. Quantitative considerations of influenza virus neutralization. Remi Amelunxen and Alvar Werder, Kansas University Medical Center, Kansas City, Kansas.

14. Studies on the viral etiology of leukemia in mice. Alvar Werder, Charlotte Schmidt, Daniel Martin and Creighton Hardin, Kansas University Medical Center, Kansas City, Kansas.

15. Antigenic mutants of phage T3. A. Eisenstark, Dept. of Bacteriology, Kansas State University, Manhattan.

16. Abrogation of strain specificity in mouse tumors by a bacterial pathogenizer. Curtis Sandage, Midwest Research Institute, Kansas City, Missouri.

17. Studies on streptolysin S relative to production by groupable streptococci and effect of this toxin on growth of mammalian cells in tissue culture. Irvin S. Snyder and Tom R. Hamilton, Kansas University Medical Center, Kansas City, Kansas.

18. Studies of L-forms of group A streptococcus relative to infection in mice and growth of human cell strains *in vitro*. Irvin S. Snyder and Tom R. Hamilton, Kansas University Medical Center, Kansas City, Kansas.

19. Quantitative coagulase activity in appar-

ently coagulase negative staphylococci. M. G. Sword and C. P. Sword, Dept. of Bacteriology, University of Kansas, Lawrence.

20. Decontamination of tuberculous sputum by aniline dyes. I. O. Faucher and L. W. Hedgecock, Kansas University Medical Center, Kansas City, Kansas and V. A. Hospital, Kansas City, Missouri.

21. The increased susceptibility to *Mycobacterium tuberculosis* in thiouracil treated rats fed atherogenic dietary factors. Richard L. Costello, Loyd W. Hedgecock and Tom R. Hamilton, V. A. Hospital, Kansas City, Missouri and Kansas University Medical Center, Kansas City, Kansas.

22. A simple technique for freeze-drying anaerobes. David W. Whitlock, Marcia D. Lupton and Gordon P. Lindbolm, Jersey Production Research Co., Tulsa, Oklahoma.

23. A capillary tube agglutination test for histoplasmosis. George C. Cozad and Howard W. Larsh, Dept. of Plant Sciences, University of Oklahoma, Norman.

24. Microbiology of fuel storage tank water bottoms. Reid S. Flippin, Midwest Research Institute, Kansas City, Missouri.

25. The effect of hydrostatic pressure on the aspartase activity of whole cells of *Escherichia coli*. Roger D. Haight and Richard Y. Morita, Dept. of Bacteriology, University of Nebraska, Lincoln.

26. Partial respiratory deficiency in Saccharomyces. Alvin Sarachek and Gregory L. Fowler, Dept. of Biology, University of Wichita, Kansas.

27. Studies on mutations induced by nonlethal dosages of ultraviolet light. Delbert M. Shankel and O. Wyss, Dept. of Bacteriology, University of Kansas, Lawrence, and Dept. of Bacteriology, University of Texas, Austin.

28. Interaction between aromatic compounds during utilization in microorganisms. J. S. Hubbard and Norman N. Durham, Dept. of Bacteriology, Oklahoma State University, Stillwater.

29. Sulfur metabolism of *Beggiatoa alba*. R. Samuel-Maharajah and Y. Morita, Dept. of Bacteriology, University of Nebraska, Lincoln.

30. Yeast foods: Their effect on yeast activity. M. N. Mickelson, Midwest Research Institute, Kansas City, Missouri.

Banquet, Kansas Union Building, Ballroom.

Speaker: "The Society's National Headquarters." Raymond W. Sarber, Executive Secretary, Society of American Bacteriologists.

March 26, 1960. Bailey Auditorium, University of Kansas, Lawrence.

1. Participation of carbamoyl phosphate in the metabolism of *Coxiella burnetii*. Richard A. Consigli, David Paretsky and Cora M. Downs, Dept. of Bacteriology, University of Kansas, Lawrence.

2. Involvement of pathothenic acid in cell division in a species of Erwinia. E. A. Grula and Mary Grula, Dept. of Bacteriology, Oklahoma State University, Stillwater.

3. Inhibition of microbial growth by organo nitro compounds. J. J. Kirkland and Norman H. Durham, Dept. of Bacteriology, Oklahoma State University, Stillwater.

4. The action of chloramphenicol on the oxidation pyruvate, acetate and oxalacetate by sensitive and resistant strains of *Staphylococcus aureus*. Jorge Padron, Dept. of Chemistry, Drury College, Springfield, Missouri.

Guest Speaker: "Genetic Studies on the Replication of Bacterial Viruses." Gunther S. Stent, Virus Laboratory, University of California, Berkeley.

Eastern Missouri Branch (James T. Barrett, Secretary-Treasurer)

March 29, 1960. Wohl Health Center, St. Louis, Mo.

1. Meningoencephalitis of viral etiology. J. Neal Middlekamp, J. C. Herweg, H. Thornton and J. Brown, Dept. of Pediatrics, Washington University, St. Louis.

2. Some aspects of radioactive carbon dioxide assimilation in the facultative chemoautotroph, *Hydrogenomonas facilis*. Norman F. Dwar, Division of Microbiology, Vestal Laboratories, Inc., St. Louis.

New York City Branch (A. C. Dornbush, Secretary)

March 22, 1960. Sloan-Kettering Cancer Center.

Symposium: Non-Specific Resistance to Bacterial Infection.

Convenor: Howard A. Schneider, The Rockefeller Institute, New York City.

1. Effect of endotoxin upon the functional and metabolic properties of leucocytes. Zanvil A. Cohen, The Rockefeller Institute, New York City.

2. The effects of bacterial endotoxins on metabolism in the mouse. L. J. Berry, Dept. of Biology, Bryn Mawr College, Bryn Mawr, Pa.

Eastern New York Branch (Ann E. Hohenstein, Secretary-Treasurer)

April 21, 1960. New York State Health Department, Albany.

1. The isolation of enteroviruses from wading pools. Sally Kelly and Wallace W. Sanderson, Division of Laboratories and Research, New York State Dept. of Health, Albany.

2. The influence of 6-mercaptopurine upon Friend virus infection in the mouse. K. F. Soike and R. L. Thompson, Sterling-Winthrop Research Institute, Rensselaer.

3. Origin of excreted nucleotides resulting from exposure to streptomycin. Richard A. Peabody, Carmen Rosano and Charles Hurwitz, V. A. Hospital, Albany.

4. The separation of Newcastle disease virus strains on DEAE columns. Dwight E. Wilson, Rensselaer Polytechnic Institute, Troy.

5. The receptor gradient for Newcastle disease virus. Vincent S. Agnello, Rensselaer Polytechnic Institute, Troy.

New Jersey Branch (Allen I. Laskin, Secretary)

February 18, 1960. Ortho Research Foundation, Raritan, N. J.

Chairman: Thomas Stoudt.

1. The activity of coenzyme Q and its analogs in the succinoxidase system. T. Cook and D. Hendlin, Merck Sharp and Dohme Research Laboratories, Rahway, N. J.

2. The effect of exogenous coenzyme Q on oxygen consumption by bacteria. H. Gregory and J. Johnston, Dept. of Bacteriology, Rutgers Uni-University, New Brunswick, N. J.

3. Sulfonamide inhibition of folic acid synthesis in cell free systems. E. J. Merola, Dept. of Bacteriology, Rutgers University, New Brunswick, N. J.

4. Studies on lysogenesis in Staphylococcus. W. Taylor, Dept. of Bacteriology, Rutgers University, New Brunswick, N. J.

5. A new method for the manipulation, maintenance, and cloning of single mammalian cells *in vitro*. R. Kessel and W. Braun, Institute of Microbiology, Rutgers University, New Brunswick, N. J.

6. Automation of the microbiological assay of antibiotics with an autocanalyzer instrumental system. T. A. Haney, J. R. Gerke, J. F. Pagano, and A. Ferrari, Squibb Institute for Medical Research, New Brunswick, N. J.

April 19, 1960. Seton Hall Medical Center, Jersey City, N. J. (Joint Meeting with New York City Branch)

Symposium: Recent Studies on Bacterial Transformation.

Chairman: Werner Braun.

1. Introductory Remarks. W. Braun, Institute of Microbiology, Rutgers University, New Brunswick, N. J.

2. Recent studies with *Bacillus subtilis* transformation. John Spizizen, Dept. of Microbiology, Western Reserve University, School of Medicine, Cleveland, Ohio.

3. Biochemical genetics of binary capsulation in Pneumococcus. Evelyn B. Smith and George T. Mills, Dept. of Medicine, State University of New York, Brooklyn.

4. Studies on modifications of the transforming principles. Sheldon Greer, Dept. of Biochemistry, College of Physicians and Surgeons, Columbia University, New York City.

North Carolina Branch (Mary A. Poston, Secretary-Treasurer)

April 2, 1960. University of North Carolina School of Medicine, Chapel Hill.

1. An improved acid-fast stain for Nocardia in clinical materials. John Carr, V.A. Hospital, Durham.

2. Cross reactions between human, battey and avian tuberculins. David T. Smith, Duke University School of Medicine, Durham.

3. Isolation of an adenovirus antigenically related to types 9 and 15 from children with respiratory disease. Henry G. Cramblett, Bowman Gray School of Medicine, Winston-Salem.

4. The demonstration by immunoelectrophoresis of the absorption of unaltered proteins through the piglet's intestine. D. O. Morgan, J. G. Lecce and G. Matrone, School of Agriculture, North Carolina State College, Raleigh.

5. Antibodies in saliva. H. Stoffer and John H. Schwab, School of Medicine, University of North Carolina, Chapel Hill.

6. The effect of dietary protein on the resistance of chicks to *Salmonella gallinarum* infection. Charles H. Hill, School of Agriculture, North Carolina State College, Raleigh.

7. Role of basic proteins in natural resistance to infection. I. Cytochemical studies on the effect of basic protein on bacteria. John K. Spitznagel, School of Medicine, University of North Carolina, Chapel Hill.

8. Role of basic proteins in natural resistance to infection. II. Participation of basic proteins in host parasite interaction in actinomycosis. W. J. Cromartie, J. K. Spitznagel and J. J. Crawford, School of Medicine, University of North Carolina, Chapel Hill.

Guest Speaker: "Environmental Habitats of Pathogenic Fungi." Dr. Chester W. Emmons, Medical Mycology Section, National Institutes of Health, Bethesda, Md.

Eastern Pennsylvania Branch (Elizabeth H. Fowler, Secretary-Treasurer)

March 22, 1960. Hospital of the University of Pennsylvania, Philadelphia.

Symposium: Bacterial Endotoxins.

Moderator: Alan Rubin, Dept. of Obstetrics and Gynecology, University of Pennsylvania School of Medicine, Philadelphia.

1. Effects of bacterial toxins on tumors and mice. H. Francis Havas, The Institute for Cancer Research, Fox Chase, Philadelphia.

2. Adrenergic inhibition and protection against *Escherichia coli* lipopolysaccharide. Richard McLean, Smith, Kline and French Laboratories, Philadelphia.

3. Metabolic effects of bacterial endotoxins in

mice. Dorothy S. Smythe and L. Joe Berry, Dept. of Biology, Bryn Mawr College, Bryn Mawr, Pa.

Discussors: Wesley W. Spink, University of Minnesota, Max Weil, University of Southern California.

April 28, 1960. Klahr Auditorium of Hahnemann Medical College, Philadelphia.

Lecture: "Physiological Control Mechanisms in the Bacterial Cell." Herman C. Lichstein, Dept. of Bacteriology and Immunology. The Medical School of the University of Minnesota, Minneapolis.

May 24, 1960. Wyeth Laboratories Research Division, Radnor, Pennsylvania.

Convenor: George H. Warren, Research Division, Wyeth Laboratories, Radnor.

1. Serial propagation of some influenza viruses in a human cell line. Samuel C. Wong, Research Division, Wyeth Laboratories, Radnor.

2. The immunological and epidemiological aspects of B virus. James E. Prier, Merck, Sharp and Dohme, West Point.

3. A serumless medium for the continuous cultivation of cells of normal and malignant origin. Robert E. Neuman and Alfred A. Tytell, Merck, Sharp and Dohme, West Point.

Rio de Janeiro Branch (Moyses A. Fuks, Secretary-Treasurer)

April 20, 1960. A joint meeting with the Rio de Janeiro Section of the "Sociedade Brasileira de Microbiologia," was held at Sydney Ross Laboratory.

1. Hypersensitivity of mice inoculated with Mycobacterium to bacterial lipopolysaccharides. A. de Oliveira Lima and C. Silva.

2. Arborviruses in Rio de Janeiro. M. Bruno-Lobo and G. Bruno-Lobo.

3. Studies on serological cross-reactions between Mycobacterium and Brucella. Carlos E. V. Serpa and Moyses A. Fuks.

Southern California Branch (William R. Romig, Secretary-Treasurer)

March 30, 1960. Cedars of Lebanon Hospital, Los Angeles, California.

1. A modern day approach to the serologic diagnosis of syphilis. Charles M. Carpenter, James N. Miller and Ruth A. Boak, Dept. of Infectious Diseases, School of Medicine, University of California, Los Angeles.

2. Bacterial oxidation of nicotine; The isolation and identification of a third intermediate. Stephen H. Richardson and Sydney C. Rittenberg, Dept. of Bacteriology, University of Southern California, Los Angeles.

3. The use of trypsinized cells in the cytometric assay of hypersensitivity in experimental brucellosis. Morimichi Fukuda and Charles M. Carpenter, Dept. of Infectious Diseases, School of Medicine, University of California, Los Angeles.

South Central Branch (John D. Schneidau, Jr., Secretary-Treasurer)

April 22 and 23, 1960. University of Mississippi Medical Center, Jackson, Mississippi.

1. Utilization of starch in the genus Corynebacterium. E. B. Carrier and C. S. McCleskey, Dept. of Bacteriology, Louisiana State University, Baton Rouge.

2. Serological studies on hydatid disease. William F. Hutchison and Mildred W. Bryan, Dept. of Preventive Medicine, University of Mississippi Medical Center, Jackson.

3. Assimilation of certain carbon compounds and some other characteristics of *Geotricum candidum*. E. R. Garrison and Mary Anne Holdar, Arkansas Agriculture Experiment Station, University of Arkansas, Fayetteville.

4. Nucleic acid changes in equine abortion virus hepatitis. Glenn A. Gentry and Charles C. Randall, Dept. of Microbiology, University of Mississippi Medical Center, Jackson.

5. Bacteriological aspects of strangulation obstruction. William O. Barnett, Dept. of Surgery, University of Mississippi Medical Center, Jackson.

6. A cytopathogenic virus isolated from normal human serum. Tatsuro Oikawa, First Dept. of Bacteriology, Institute for Infectious Diseases, University of Tokyo, Japan, and Dept. of Medicine, University of Mississippi Medical Center, Jackson.

7. Agglutination absorption studies with species of Nocardia and related actinomycetales. Angela Restrepo and J. D. Schneidau, Jr., Dept. of Microbiology, Tulane University School of Medicine, New Orleans, La.

8. Some reactions of rheumatoid factor with various gamma globulins. F. C. McDuffie, Depts. of Medicine and Microbiology, University of Mississippi Medical Center, Jackson.

9. Influence of cortisone and herpes simplex virus on metabolic processes of cells grown in tissue culture. Thelma N. Fisher, Dept. of Microbiology, Tulane University School of Medicine, New Orleans.

10. Alternate pathways of glucose metabolism in *Azotobacter agilis*. Mary K. Johnson and Emmett J. Johnson, Dept. of Microbiology, University of Mississippi Medical Center, Jackson.

11. Propagation of fowlpox virus in tissue culture. Lyman A. Magee and Charles C. Randall, Dept. of Microbiology, University of Mississippi Medical Center, Jackson.

12. Observation on staphylophage 3A. Kent

Smith and C. S. McCleskey, Dept. of Bacteriology, Louisiana State University, Baton Rouge.

13. The effect of anticoagulants on the leucocytic sticking reaction in ear chambers of rabbits. Fred Allison and Margie G. Lancaster, Dept. of Medicine, University of Mississippi Medical Center, Jackson.

14. Studies on isolated viral inclusions. Charles C. Randall and L. G. Gafford, Dept. of Microbiology, University of Mississippi Medical Center, Jackson.

15. A study of the incidence of staphylococci in the nasopharynx of the normal population of a community of 100,000. James B. Grogan and Curtis P. Artz, Dept. of Surgery, University of Mississippi, Jackson.

16. Some properties of a proteinase obtained from *Pseudomonas aeruginosa*. Earl Fisher, Jr., Dept. of Ophthalmology, Tulane University School of Medicine, New Orleans.

Dr. Charles E. Clifton, Department of Medical Microbiology, Stanford University, was the guest speaker at the dinner. Dr. Clifton spoke on "Oxidative assimilation and storage products."

Texas Branch (E. O. Bennett, Secretary-Treasurer)

April 1–2, 1960. University of Texas, Southwestern Medical School, Dallas.

1. Role of immunity in the genesis of experimental pyelonephritis. Betty W. Hunter, Jay P. Sanford, Robert E. Windom and Janet C. Hogan, University of Texas Southwestern Medical School, Dallas.

2. Specific prevention and suppression of experimental allergic encephalomyelitis. C. M. Shaw, E. C. Alvord, W. J. Fahlberg and M. W. Kies, Baylor University College of Medicine, Houston.

3. Mast cells and anaphylaxis in mice. R. D. Higginbotham, University of Texas Medical Branch, Galveston.

4. Immune serum leptospiracidal phenomena. Lyle Kuhnley and V. T. Schuhardt, Dept. of Biology, Texas Technological College, Lubbock and Dept. of Bacteriology, University of Texas, Austin.

5. Ultramicroscopic structure of *Bacillus anthracis* growing *in vivo*. I. L. Roth, C. W. Lewis, Jr. and R. P. Williams, Dept. of Microbiology, Baylor University College of Medicine, Houston.

6. Intestinal antisepsis: comparative studies with neomycin and neomycin-nystatin. A. W. Bronwell and J. S. Hubbert, Methodist Hospital, Lubbock, Texas.

7. Further observations on the determination of tetracyclines in blood serum. H. J. Eoff, R. E. Davies, R. Sivarama Krishnan and J. R. Couch, Depts. of Poultry Science and Biochemistry and Nutrition, Texas A & M College, College Station.

8. Isolation from egg yolk dialysate of a factor stimulatory for the growth of mycobacteria. J. O. Norman and R. P. Williams, Dept. of Microbiology, Baylor University College of Medicine, Houston.

9. Differentiation of unclassified (atypical) mycobacteria. F. C. Witcomb, M. C. Foster and C. D. Dukes, Dept. of Laboratories, V. A. Hospital and Dept. of Microbiology, Baylor University College of Medicine, Houston.

10. N-alkane utilization and lipid formation by nocardia. R. L. Raymond and J. B. Davis, Socony Mobil Oil Co., Inc., Dallas.

11. Lactic and nonlactic colony counts during the ripening of different types of cheddar cheese. I. I. Peters, Dairy Science Dept., Texas A & M College, College Station.

12. The isolation of clostridium species from secondary recovery and salt water disposal systems. C. O. Tant, Visco Products Company, Inc. Houston.

13. Some growth requirements of *Streptococcus faecalis* for citrate fermentation. R. B. Boley and N. P. Wood, Texas A & M College, College Station.

14. Intracellular localization of pigment in *Serratia marcescens*. R. P. Williams and M. Purkayastha, Dept. of Microbiology, Baylor University College of Medicine, Houston.

15. The effect of incubation temperature and nutrition upon pigmentation in *Serratia marcescens*. C. L. Gott and R. P. Williams, Dept. of Microbiology, Baylor University College of Medicine, Houston.

16. Amino acid decarboxylases in *Pseudomonas reptilivora*. G. R. Seaman, University of Texas Medical Branch, Galveston.

17. Evidence of a role for soil fungi in the degradation of cholesterol. W. J. Mandy and G. E. Peterson, University of Houston, Houston.

18. An unidentified fungal pigment with certain unique chemical and physical properties: a preliminary report. R. Livesay, H. Futch and G. E. Peterson, University of Houston, Houston.

19. Endogenous cell division stimulants of bacillus. N. H. Nabbut, C. E. Lankford and J. B. Reeves, Dept. of Bacteriology and Public Health Utah State University, Logan, and Dept. of Bacteriology, University of Texas, Austin.

20. Rapid identification of toxigenic *Corynebacterium diphtheriae*. Jo Ann Whitaker, John B. Nelson and Chester W. Fink, Dept. of Pediatrics, University of Texas Southwestern Medical School, Dallas.

21. Further studies on virulence of staphylococci. J. A. Bass and R. D. Higginbotham, University of Texas Medical Branch, Galveston.

22. An outbreak of isosporiasis in a school for mental defectives. H. E. Henderson, Laboratory Section, State Dept. of Health, Austin.

23. A rapid method for mass production of replicate MK tissue culture in unstoppered tubes. Craig Wallis and Joseph L. Melnick, Dept. of Epidemiology and Virology. Baylor University College of Medicine, Houston.

24. Insectivorous bats in the epidemiology of encephalitis: a suggested mechanism. Rae Allen, Ruth A. Sims and S. Edward Sulkin, University of Texas Southwestern Medical School, Dallas.

25. Mixed viral infections in suspended cell cultures. Sidney Halperen and S. Edward Sulkin, University of Texas Southwestern Medical School, Dallas.

26. HAI arbor virus antibodies in avian hosts. Alex Canales and Julian Feild, Laboratory Section, State Dept. of Health, Austin.

27. Hamster kidney tissue culture of arbor viruses in mosquitoes. J. E. Grimes, Alex Canales and R. B. Eads, Laboratory Section, State Dept. of Health, Austin.

28. Effects of a sulfated polysaccharide on resistance of mice to pathogenic effects of EMC virus. A. Y. Elliott and R. D. Higginbotham, University of Texas Medical Branch, Galveston.

I. M. Lewis Lecture: "Sulfolipid from Virulent Tubercle Bacilli." Dr. Gardner Middlebrook, National Jewish Hospital, Denver, Colorado.

Washington Branch (Elizabeth J. Oswald, Secretary-Treasurer)

March 22, 1960. Walter Reed Army Institute of Research, Washington, D. C.

1. Microbial interactions: Characterization of the substance(s) produced by *Erwinia atroseptica* which enhances sporulation of *Bacillus sphaericus*. Eddie C. S. Chan and Michael J. Pelczar, Jr., Dept. of Microbiology, University of Maryland, College Park.

2. Virus-caused pancreatic necrosis of trout. Tissue culture and transmission studies. Kenneth E. Wolf, S. F. Snieszko and C. E. Dunbar, Eastern Fish Disease Laboratory, Fish and Wildlife Service, U. S. Dept. of Interior, Leetown, West Virginia.

3. Studies on cholera in South-East Asia. Captain Eugene Gangarosa, Dept. of Bacteriology, Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D. C.

May 24, 1960. Walter Reed Army Institute of Research.

1. The production of immunity and immune paralysis in mice with the capsular polysaccharide of Klebsiella. Harold Baer and Badi Batshon, Division of Biologics Standards, National Institutes of Health, Bethesda, Md.

2. A micurgical study of microscopic openings in vector transmission of plant viruses and bacteria. Earl M. Hildebrand, Crops Research Division, Agricultural Research Service, U. S. Dept. of Agriculture, Beltsville, Md.

3. Staphylococcal enterotoxin studies. Ezra P. Casman, Food and Drug Administration, Dept. of Health, Education and Welfare, Washington, D. C.

BOOKS AND REVIEWS

New Books:

Carter's Microbiology and Pathology, 7th Edition, Alice L. Smith, Dallas, Texas: C. V. Mosby Co., 1960, 742 pp., $7.50.

Diagnostik der Bakterien und Actinomyceten, N. A. Krassilnikov, Moscow: Veb Gustav Fischer Verlag, 1959, 813 pp.

Laboratory Manual for Medical Bacteriology, M. J. Pickett and Eric L. Nelson, Los Angeles, Calif.: Burgess Publishing Co., 1960, 100 pp., $3.50.

Lobund Reports: Germfree Life Studies, No. 3, J. A. Reyniers, H. A. Gordon, R. F. Ervin, Morris Wagner, Editors, South Bend, Ind.: University of Notre Dame Press, 1960, 182 pp., $5.00.

Methods of Biochemical Analysis, Vol. VIII, David Glick, Editor, Mineapolis: Interscience Publishers, Inc., 1960, 400 pp., $11.00.

Microbiology—a Laboratory Guide, R. Reece Corey, Fayetteville, Ark.: Burgess Publishing Co., 1960, 106 pp., $3.50.

Principles of Public Health Administration, 3rd Edition, John J. Hanlon, Philadelphia: C. V. Mosby Co., 1960, 714 pp., $10.50

The Bacteria: A Treatise on Structure and Function, Vol. I, Structure, I. C. Gunsalus and R. Y. Stanier, Editors, Urbana, Ill., and Berkeley, Calif.: Academic Press, 513 pp., $13.00.

Reviews:

Virus Growth and Variation, The Ninth Symposium of the Society for General Microbiology, A. Isaacs and B. W. Lacey, Editors, London: Cambridge University Press, 1959, 272 pp., $7.00.

A report of a symposium which records an impressive bit of advances in factual, theoretical and intellectual concepts of virus multiplication. The papers included in this symposium center about the importance of viral nucleic acids in terms of virus growth and variation. The biological and biochemical approaches to virus research in recent years is well illustrated by the theme in which viral nucleic acids impress their stamp upon the cells to induce production of new virus.

The mechanism of virus multiplication throughout this symposium has been the role that the viral nucleic acid plays in exerting a dominant influence by which the biologist, geneticist, biochemist, and microbiologist may focus attention and develop a common approach to the problem. The interest then expands to relate studies on the effects of viruses upon cellular structure and function. Other items of interest include the theoretical aspects of virus genetics, the nature of proviruses, and tumor viruses, and to other related problems.

Many of the aspects of virus multiplication are partially resolved within this symposium and record the important advances made in the field during the past few years. The text is introduced by a preliminary survey of current problems pertaining to viruses, nucleic acids, cellular functions, and infective heredity. The possible solution to these problems is approached by a discussion of specific topics which include the following.

Growth of bacteriophage
Viral interference
Host-controlled variation in animal viruses
Growth studies with herpes virus
Special interactions between virus and cell in the Rous Sarcoma
Studies on vaccinia virus in HeLa cells
The chemical approach to the study of animal virus growth
Fluorescence microscopy: observation of virus growth with aminoacridines
Electron microscopic observations on adenoviruses and viruses of the influenza group

The papers of this symposium present the provocative, yet recent, concepts on the study of cellular organization and the relationship between the structure of nucleic acids and their biological functions. The task undertaken by this symposium and organized by the editor is a stimulating one that will have its reward in creating imaginative researchers to further work in the field.

WILTON A. RIGHTSEL

A Guide to the Identification of the Genera of Bacteria, V. B. D. Skerman, Baltimore: The Williams & Wilkins Co., 1959, 217 pp., $5.50.

Man's most singular achievement is his ability to (occasionally) turn chaos into order. Students of microbiology, for example, have long been preoccupied with the task of classifying the microbial world into a semblance of order—a task which requires appropriate identification of microorganisms. *A Guide to the Identification of the Genera of Bacteria* represents one man's attempt to narrow the effort required for identification through the compilation of general directions supported by a list of techniques needed for the purpose. Bacterial identification, unfortunately, necessitates acceptance of certain basic assumptions—that original investigations are accurately reported, that the studies were conducted under conditions most appropriate for the organism in point, and that sufficient strains were studied to make the observations valid and significant for the group as a whole. Based on these assumptions, Professor Skerman has amassed a compendium, largely in the form of a dichotomous key, enabling the user to identify a genus. Species identities can then be established by using the *Guide* in conjunction with the 7th Edition of *Bergey's Manual of Determinative Bacteriology.*

A Guide to the Identification of the Genera of Bacteria carries a description of many genera which did not appear in the latest edition of Bergey's Manual or appeared in the literature after publication of the Manual. The section entitled "Digest of Genera" was designed to point out deficiencies in descriptions of various genera in the hope that future investigators would initiate steps to improve the situation. A comprehensive survey of all the outstanding characteristics of each genera are set forth in detail enabling one to rapidly compare existing similarities and differences.

The "Methods" section itemizes the preparation of various types of media for diverse organisms. One notable feature is the development of a standard basal salts medium for the cultivation of autotrophs and nonexacting heterotrophs. As the author points out, no plausible reason exists for the plethora of different recipes extant for the preparation of inorganic media. In all cases studied by Professor Skerman the standard basal medium proved satisfactory for taxonomic purposes.

The existence of a myriad of diagnostic tests, some of doubtful significance, used in the identification of bacteria presents a problem in standardization of methods. This is not to say that an absolute standardization of methods is desirable but some protocol should be available to enable research workers to compare their findings directly with each other.

A Guide to the Identification of the Genera of Bacteria should prove to be a most useful addition to Bergey's Manual. Its ultimate utility as a reference work will depend on its general acceptance which will be conditioned in turn by its performance in specific situations. Since performance of the *Guide* cannot be predicted short of application the user would do well to ponder Georg Christoph Lichtenberg's aphorism: "When a book and a head collide and a hollow sound is heard, is it always the fault of the book?"

WILLIAM R. FINNERTY

Progress in Industrial Microbiology, Vol. I, D. J. D. Hockenhull, Editor, Ulverston: Interscience Publishers, Inc., 1959, 248 pp., $8.00.

Criticism has been levied at recently published reviews of applied areas of microbiology. When

one barely is able to keep abreast of the monthly issues of scientific papers in a limited area of microbiology, the appearance of new reviews, which supplement the well-established *Annual Review of Microbiology*, can be overwhelming. An immediate reaction is to protest vehemently, especially when the new reviews are presented as commerical ventures. Is the need for the review the motivating factor, or has a careful estimate of profits from library sales justified the publication?

In such instances, the reviews must be judged critically, based on their value to the reader. In *Progress in Industrial Microbiology*, the editor, D. J. D. Hockenhull, has promised to present "the most significant advances in various fields of endeavour supported, so far as possible—at least in the initial volumes—by a comprehensive background of the subject." Each review is expected to be of "especial use to those entering the fermentation field; it should give them both access to currently significant information and a structure upon which they can build their subsequent reading, research, and control activities."

As supplemental reading, the reviews may attain their goal. However, the essentials of fermentation science can be taught best by presenting fundamental principles drawn from a variety of fermentations, uncluttered by the many details which are contained in review articles limited to a specific process.

The reviews presented in *Progress in Industrial Microbiology* do have an important function. They are significant especially for workers in industrial laboratories charged with the responsibility for continued development of industrial fermentation processes. Within the summary of a specific fermentation process, leads for new experiments may be found. These leads may not be apparent to the writer of the review, but the reader, with his own background of experience, can gain new insight for critical studies on improving industrial fermentations. Constant research on a single project tends to become sterile, yet competitive pressure forces development studies on industrial processes, such as penicillin, which show little decrease in emphasis as the years go by. Workers in applied fermentation will find much stimulation from D. J. D. Hockenhull's article on "The Influence of Medium Constituents on the Biosynthesis of Penicillin" and T. W. Goodwin's chapter on "Production and Biosynthesis of Riboflavin in Microorganisms". The rather complete presentation of details of the biosynthetic pathway to penicillin and riboflavin are especially challenging to the industrial microbiologist.

"The Fermentation of the Tetracyclines" by A. Di Marco and P. Pennella is a complete summary of published details of the tetracycline fermentations and should be a primary reference source for all who desire to study the fermentation. It is unfortunate that the knowledge of biosynthetic pathways of the tetracyclines is inadequate to allow one to understand the significance of the many observations reported. The chapter on "Microbial Fat: Micro-organisms as Potential Fat Producers" by M. Woodbine is a complete review, valuable as a source of reference, but little can be gleaned of the author's interpretations of the significance of the isolated citations. The discussion on Theory and Statistical Analysis of Agar Diffusion Assays in the section on "Microbiological Assay" by W. T. Sokolski and O. S. Carpenter is particularly valuable. "The Morphology and Natural Relationships of Saprophytic Actinomycetes" by K. A. Bisset is an interesting essay on an important problem facing all microbiologists.

Volume I of *Progress in Industrial Microbiology* is essential reading for microbiologists in industrial research laboratories. Probably it should be present in most college libraries. Individual chapters may prove useful for literature projects for senior college bacteriologists. Because of its limited scope, *Progress in Industrial Microbiology* should not be required reading for all graduate students, and most research bacteriologists will not wish to spare the time to study the articles in all of their details. Because the reviewer is associated with an industrial research laboratory, he hopes that the limited audience will justify continuation of the series, for the book serves a valuable purpose. Possibly the editor should schedule publication of future volumes on the basis of accumulation of sufficient well-written manuscripts, containing the comments and interpretations of the authors, rather than attempting to meet a defined time schedule for publication.

BOYD WOODRUFF

Staining Procedures Used by the Biological Stain Commission, 2nd Edition, H. J. Conn, Geneva, N. Y., Mary A. Darrow and V. M. Emmel, Rochester, N. Y.: The Williams & Wilkins Co., 1960, 289 pp., $5.00.

This publication was conceived and executed by the Biological Stain Commission with the purpose of making available a convenient source of the established as well as some of the more recently developed biological staining procedures used by the members of the Commission to test the many stains submitted to them. Every procedure contains concise and instructive information. It is an excellent guide for the technician directly concerned with the preparation of solutions and staining as well as for the pathologist who interprets the results.

The authors have succeeded in condensing into a minimum of space a large amount of valuable information. The excellent presentation of each technique is especially helpful; every method in-

cludes Purpose, Preparation of Solutions, Staining Methodology and Anticipated Results. The major divisions of the book are. (1) Introduction, (2) Animal Histology, (3) Plant Histology, and (4) Microbiology.

The Introduction covers briefly the general methods used in animal and plant histology for preparing specimens for staining. The use of water soluble waxes, celloidin and paraffin as embedding agents are described. The preparation of standard solutions used in these methods is also included.

The section on Animal Histology covers the procedures for general tissue staining as well as methods designed to demonstrate specific tissues. The latter coverage is thorough and up to date as indicated by the inclusion of the most recent method for detecting sites of hydrogen transfer and for demonstrating the presence of native phenols or of enzymes capable of releasing phenols.

The Plant Histology section includes general plant staining methods as well as the more specialized cytological techniques. A chapter on the methods for pollen and pollen tube staining is included in this section.

This publication is especially recommended to the microbiologist as an excellent source of staining procedures. The staining methods in Microbiology are divided into those used for microorganisms in smears and in tissue sections. All the well established as well as the recently developed staining techniques are covered in this section.

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1961—Chicago, April 23–27
1962—Kansas City, May 7–12
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